

SOAP

and

SANITARY CHEMICALS

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CONTENTS

Editorials	39
Some Practical Notes on Toilet Soap Production.....	41
By J. W. McCutcheon	
Problems in Packaging Liquid Soaps.....	45
By H. E. Peterson	
Shampoos—Part II	47
By Dr. E. G. Thomssen	
Ask Soap Quota Revision.....	50
Soap Versus Synthetics.....	75
Boiler Compounds	130
By Milton A. Lesser	
Do's and Don'ts in Household Insecticide Application.....	134
Sources of Error in Germicidal Activity Tests.....	137
By R. Pressman and J. C. Rhodes	
Concentrated Sprays	145
By H. O. Schroeder, A. H. Madden, Arthur W. Lindquist and Howard A. Jones	
Deodorized Petroleum Spray Base Oils.....	149
By B. I. Scoggin, W. L. Steiner and C. C. Allen	
New Trademarks	61
Bids and Awards	65
Raw Material Markets	67
Production Clinic	79
Products and Processes	85
New Patents	85
Sanitary Products Section	95
Technical Briefs	155
Classified Advertising	177
Advertisers' Index	183

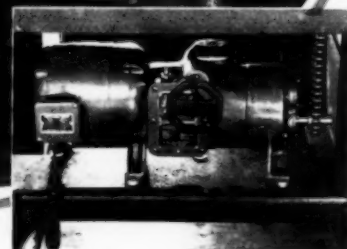
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INSERTED recently in the Congressional Record under the heading, "Attack on Soap Monopoly," were three letters from Representative Emanuel Celler of New York, one to U. S. Attorney General Tom C. Clark and two to the Secretary of Agriculture. The first requests a survey by the Attorney General of "the monopoly on soap manufacturing now held by the so-called Big Three, Colgate-Palmolive-Peet, Lever Brothers, and Procter & Gamble." The other two are in substance protests to the Secretary of Agriculture against the manner in which oil and fat rationing under WFO-42b operates to the detriment of the small manufacturer, and a request for an increased initial exemption to all soapers before quota restrictions become effective.

Following the introduction of this correspondence into the Congressional Record, the same matters were the subjects of a hearing before the Small Business Committee of the House of Representatives. The charge of unfair restrictions on the small soaper as the result of oil and fat quotas and a consequent tendency to establish a monopoly in soap manufacture was repeated. The small manufacturers maintained that WFO-42b discriminates against them and places them in a disadvantageous competitive position.

Watching developments from the sidelines of the soap industry for the past several years, it has been inevitable in our opinion that this "monopoly" thing should sooner or later break into the open. With "leftist" sentiment in Washington at its peak these days and with the large soapers,—not only the "big three" but other large units as well,—the victims of an inept policy of inter-industry relations, this was bound to happen. In some ways, as we mentioned

here a year or so ago, the larger companies almost have invited it.

Although we believe that the charge of monopoly in the ordinary meaning of the word is so much "poppycock" as far as the soap industry is concerned, we do feel that the charge could be changed to stupidity and made to stick. But even though the charge of monopoly be found empty,—as a review of soap industry purchasing, distributing, merchandising and pricing over the past twenty years is bound to show,—all this monopoly monkey-business in and around Washington is going to do the industry no good, and, we feel, could have been avoided.

If by "monopoly," Congressman Celler,—and be advised he is no wild-eyed radical, but a very solid citizen, a congressional old-timer with both feet on the ground,—means that three manufacturers produce the bulk of the nation's soap and that they are well entrenched both plant and market-wise, he is correct. But by the same token, the manufacturers of automobiles and refrigerators likewise are a monopoly. But if by "monopoly," Mr. Celler means a combine to wipe out competition, maintain prices, and so forth, we feel that a label of "poppycock" can be substantiated by a hundred happenings over the years.

Turning back to the problems of the small soapers, we must admit that many of them have suffered considerably as a result of government war-time controls. But so have the large soapers. And if our observations serve us correctly, we know of very few small soapers who have not made money during the past five years, more money than they made in the previous five. Their desire to expand when more business is available, is only natural, even though it

be at the expense of the larger units. But charges by Congressman Celler that small soapers are being forced out of business by inadequate quotas has not been borne out by the facts. If this mess must be dragged out into the open in Washington, let's look all the facts squarely in the face.



FOR the first time in many a moon, the demand for some soap products has dropped off during the past month or two. Reports in the trade indicate that the first quarter of 1946 has shown a reduction in sales of soap specialties, particularly shampoos, shaving soaps, other potash soaps, and some textile items. The percentage of decline has been variously reported from ten up to twenty per cent under the fourth quarter of 1945.

Coincident with a slackening of demand has come some price cutting,—and this in spite of the continued reports of a prolongation of the oil and fat shortage. In some of the potash soap specialties, the decline in prices has been sharp, too sharp to be warranted by a ten per cent reduction in sales. This may reflect a nervousness among certain manufacturers, a feeling that the situation is in the preliminary stages of shifting from a sellers' market to a buyers' market.

Inquiries among large buyers and among both wholesale and retail outlets reveal that inventories of soap products with the exception of certain laundry items have been on the increase of late. Demands of buyers that goods purchased today be delivered yesterday are fewer. There appears a feeling among purchasers that inventories are large enough and a tendency to postpone shipments.

Whether the first quarter marks a genuine swing of the pendulum or is merely a temporary lull in the previous active demand, the ensuing months will reveal. But once there is any real back-up of stocks in distributing channels, we can be certain that

it will not be long before the effects will be felt all the way to the raw material markets.



AS INCREASING numbers of men released by the armed services acquire a thirst for learning whetted to an appreciable degree by an educational subsidy from Uncle Sam, more and more of them ask us how and where they may learn the fine art of soap making. Undoubtedly having read a financial report to one of the larger soapers, they feel that there must be money in the business. Quite recently, an inquiry in similar vein was addressed to us by the Netherlands Embassy in Washington with a view to educating some young Netherlanders in this country along soap lines.

These inquiries have set us to thinking that the average American university chemical engineering course, as far as we have been able to determine, gives little except the theoretical rudiments of soap making and less in the chemistry of fats. Usually, specialized studies in these subjects come later, if they come at all. But, we know of no course in America where students might be particularly fitted by their chemical engineering education to enter the employ of a manufacturer of soaps or detergents.

And while we continue additional alleged thinking along the same lines, we wonder what, if any, would be the advantages of a chemical engineering course somewhere with primary emphasis on the science of soap making. Would such not eventually redound to the benefit of the soap industry, and would the subject of scholarship subsidies by the industry be worthy of consideration? Old-time soap boilers who still revel in their black magic at the kettle and crutcher, are not likely to take kindly to the idea. But if we are going to continue to wash our clothes and our necks with soap for some years to come,—and there is less assurance of this as times goes on,—it might be worth thinking about.

Some practical notes on TOILET SOAP PRODUCTION



ALTHOUGH fats and oils are still not the easiest materials to find, the situation in toilet soap manufacture can be expected to improve in the near future.

In the meantime, it might be well for the small manufacturer to check over his methods and equipment before he finds new and keener competition sawing off the limb on which he is sitting. Even now there is a noticeable improvement in the quality of products put out under the better known brands,—and who knows, one of these days perfume too may be added. The larger companies on the whole have been scrupulous about the quality of their toilet soaps and it is no secret that the lower-priced nationally advertised bars are as good a quality procurable anywhere and at almost any price. This does not mean that the smaller concerns do not or cannot also make fine soaps. Rather it means that many of the specialty firms enjoying a trade in high priced soaps do not concentrate their attention on the actual physical character of the bar to the extent which the price difference might indicate.

The difficulties in producing a really fine bar of soap may be lack of equipment, know-how or personnel. It has been my experience that many small companies are affected adversely by the latter trouble often without knowing it. The management frequently expects and hopes an outsider can suggest some new plant layout or piece of equipment that will slide them to the pinnacle of success, when what they really should do is to fire John and promote Joe. This process is not as

easy to carry out in practice as it is on paper. Often we procrastinate in carrying out a decision which better judgment knows should have been done years ago. My old professor used to tell us that any measurement or observation in an analysis that had to be taken while you squinted, tip-toed, or stood on your head, was not worth the bother. In the same way, I believe that quality production of a toilet soap can be obtained and maintained only if the working conditions are good, the work is planned, and the personnel are unhampered by emotional strain.

The raw materials entering the toilet soap department are soapflakes, or pellets, perfume and a minor array of such materials as whiteners, preservatives, color, superfatting agents, and packing materials. The finished product should be a neat uniformly wrapped and cleanly stamped bar, with the minimum of mechanical blemish, correct to standard in color and perfume, capable of long standing without undue discoloration or loss of perfume, free from specks or other noticeable blemish, and capable of being washed down in lukewarm water without developing a rough or bumpy surface and without undue splitting and cracking on the wash stand. It should also lather and wash!

The correction of bar faults is not an easy matter, since even one type of blemish may be caused by a series of coincidences from kettle to press. In the following synopsis of typical manu-

facture, some of the important points in regard to the above will be mentioned.

THE kettle soap should be uniform in formula and as nearly as possible in the separate raw materials composing it. If necessary, stocks should be blended on a basis of analyses. A standard of color, iodine value and titer should be maintained. Kettle bleaching should not be practiced with the idea of obtaining a light soap from a dark stock. Only high grade stocks should be used and the presence of linoleic acid kept below 3 per cent. Usually tallow and coconut oil (as available) up to 20 per cent are used. Grease is usually avoided. A finished soap titer of 41-42 degrees is desirable with an iodine value of approximately 45-50. The soap should be completely saponified, below 0.6 or 0.7 per cent combined electrolyte and have a free alkali under 0.10 per cent. Nigres should be degraded at frequent intervals, fresh salt used and nothing but clean uncolored toilet base scrap added. The top boiling section of the kettle should be monel or stainless clad. In addition to this, the soap should be strained through a fine mesh screen as it passes to the chilling roll.

The drier reduces the moisture content of the finished kettle soap from about 30 per cent to 14 per cent varying slightly with operating conditions and formula. No metallic particles should rub off the chains and carriers

By J. W. McCutcheon

to contaminate the soap. This is not likely to happen unless the dryer is very old or is used at infrequent intervals. Flake thickness should be medium and drying uniform across the conveyor shelf. This means a sharp cold-roll knife and even functioning of fans. A 3 per cent variation would be acceptable. Flakes must not be used direct from the drier until the moisture has come to equilibrium which usually means bin storage. If possible it is advantageous to spaghetti-plod the flake from the drier and keep it in covered buggies, thus saving about 50 per cent of bin space. This more effectually preserves the soap in a uniform condition. Buggies and conveyors must not scale off into the chips. This is one of the most frequently met sources of contamination and can be eliminated by plating or using stainless steel in construction.

The flakes or spaghetti ploddings are weighed into an amalgamator for formulation. If the flakes are in bins, these should be located on the floor above and dropped directly into a scaling amalgamator or through an intermediate travelling scale bucket. In any case, soap must be scaled and all other ingredients either weighed or measured into the crutcher in accurately calibrated vessels.

Colors should be added only in solution, and distributed over the flakes while the amalgamator is running. They should be made up under laboratory control. Perfume should be weighed or measured by calibrated cup. A preservative is usually added in small amounts to stabilize color and perfume. A 1 per cent sodium silicate of 40 Bé is an excellent preservative, but should be crutched into the soap prior to drying. Actual rancidity in toilet soap is seldom met except under unusual conditions of storage. A white soap should keep for a year with practically no change in color or odor under normal packaging conditions and a case of each boil should be so laid aside for future examination.

Whitening agents such as zinc oxide or titanium oxide may be added to mask the slight translucency which some find objectionable. The type used should be standard for soap manufac-

turing and should be laboratory checked. Other ingredients are frequently added for special purposes, but except for lanolin, their addition adds more to the sales campaign than to any intrinsic power of their own to improve the soap lathering or other qualities. It must be emphasized that all ingredients be laboratory tested for purity and compatibility with the perfume, soap and color, before use. It should also be borne in mind that an off color soap base will not give a brightly colored soap. Also only tested and tried colors of which there are an abundance should be used and their number should be kept to the absolute minimum. Practically all colors will fade after a few months, so that large stocks of such items should not be kept in warehouses.

AFTER thorough amalgamation for five to twenty minutes, depending on the formula, the soap is dropped to the mills. Three sets of granite mills of four rolls each, plus a five-roll steel finishing mill, usually do an excellent job if they are properly spaced and faced. One often meets the opinion that if a soap is fairly good coming off the last mill, then it will be twice as good if it is put through once more. This reasoning is not correct as a study of milling conditions will reveal. The rolls of a mill increase in speed from bottom to top, a typical speed ratio being 9, 15, 22 and 35 r.p.m. The soap as it passes from the slower to the faster roll is subject to a rubbing action. At the same time the spacing is decreased from bottom to top in a ratio slightly under that required for maximum production from the top roll. The small bunches of soap miscelles are pressed out and smoothed by this process. From the top roll, the soap is ribboned to give maximum mixing of all parts and falls to the next set which is up slightly closer. Again the soap is passed and any hard parts or bunched soap miscelles are spread. After the third pass, a steel mill may be used for finishing purposes because of its higher speed and closer possible setting.

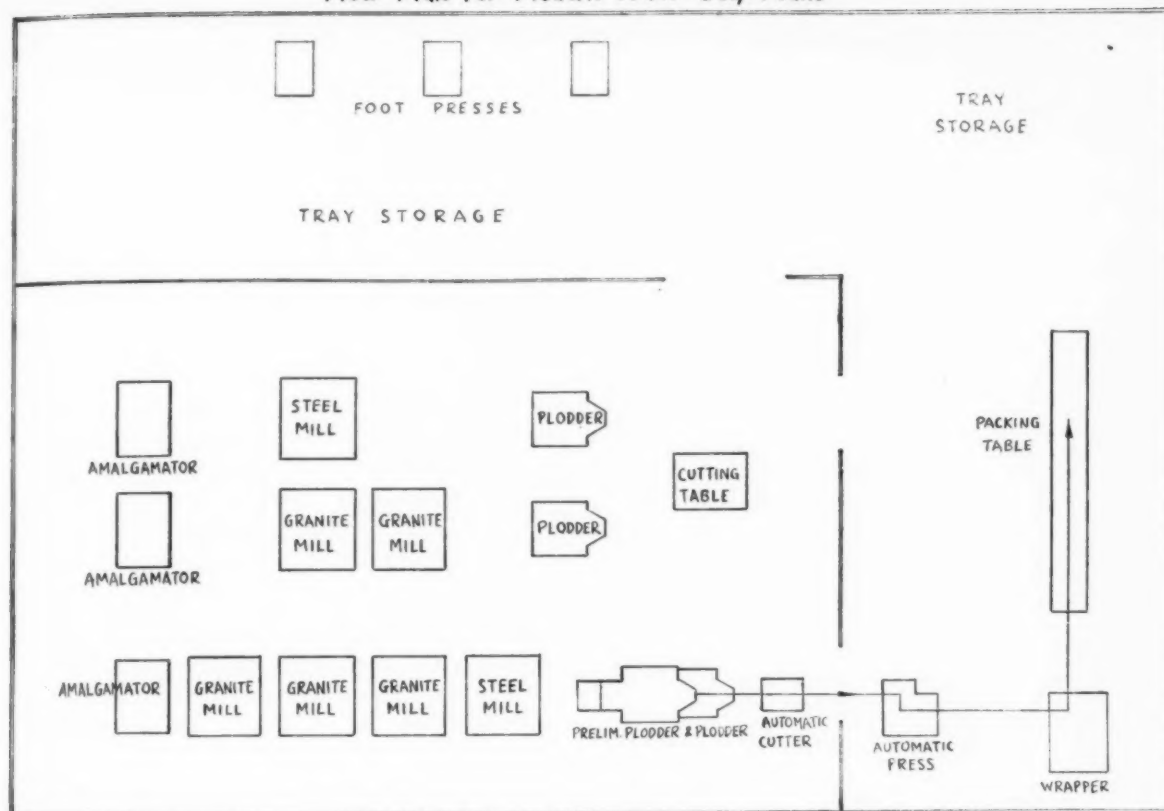
Poor milling results in a rough or even lumpy feel to the soap as it is

being washed down in lukewarm water. Figures for settings will vary with the equipment and type of formula used. Off the last roll, the soap is crimped so that the thin sheets are exposed to the air as little as possible. Examination of the sheet coming from the roll should find it somewhat plastic, indicating proper moisture. When held to the light it should show no hard particles or specks of any kind. If the soap does show specks, it may indicate poor setting of the mills, loose bearings, poor temperature control of the steel mill, uneven faces, etc. If the soap is re-passed, it is quite probable that many of the specks will be removed, but additional ones will be added from the dried corners of exposed ribbons and loose dried chips picked up from the rolls. The results may be disappointing.

With each pass through the mills, the soap under normal atmospheric conditions usually loses one-half per cent moisture. This also is a factor against repeated passes. Too little water results in a "short" soap unfit for plodding. The actual addition of water to the batch may be a prerequisite to further milling but the results are in general usually unsatisfactory. The solution lies in the rechecking of the various factors causing the condition. In setting the mills, each roll should be checked with a feeler gauge at various spots from side to side and the setting made which best represents the conditions desired. Then the mill should be run with soap and a recheck made on each roll from the flake thickness coming off. This is important, since bearings may not run true and the rolls may spread under pressure. A gain of a few thousandths of an inch is not significant, but should be considered in the setting. If a steel mill is in use, its water temperature in and out should be checked and regulated closely while operating under continuous production. The expansion is considerable and a steel mill perfectly adjusted initially may quickly thin out in the middle section after a few minutes of operation.

If the mills cannot be set as desired, or are uneven, they require overhauling. Usually refacing will suffice.

Floor Plan for Modern Toilet Soap Plant



Failing to catch the trouble in the mill, the soap's previous history in drier, bin and amalgamator should be examined closely. Bin chips will inevitably give poorer milling results than spaghetti ploddings made direct from the drier. Mills should be cleaned thoroughly between runs as loose dried chips left on the roll are a major nuisance.

When short runs of specialty soap are made, it is extremely important to clean the mills between runs. With large tandem sets of mills as above described this loss of production may be costly. It is convenient therefore to use a tandem set of granite mills plus a separate steel mill so that they can be used as double or single units. The soap may then be passed through the tandem set three times and once through the steel. Or, an attachment may be put on the steel mill to circulate the chips through it as often as necessary for proper results. It goes without saying that such practice requires more milling experience on the

part of the operator than a straight-line set up, but considerable time and power is saved thereby. Power requirements on quadruple, duplex and single mills is about 40, 25 and 10 H.P. The larger power unit should be started by commutator switch but the smaller ones may be started and stopped, by push button suitably protected by overload relays. Safety shut-off switches should be within easy reach from the front of each mill. Low buggies with wooden shovels are convenient for soap transfers on intermittent lines. With continuous production the soap is handled to the mills directly from the amalgamator and out by conveyor system to the preliminary plodder.

WITH continuous production, the soap passes from the preliminary plodder in spaghetti form to final plodder, to automatic cutter, press, wrapper and packing belt. With intermittent operation, the soap is passed from mill to preliminary plodder by buggy to final plodder to hand cut-

ting table and hence to foot or semi-automatic press, hand wrapping tables or automatic wrappers as required. Transfer from the final plodder on is carried out in trays especially designed to stack and handle by fork truck or other means.

There should be a time lapse between milling and plodding of about thirty minutes to allow the soap to come to an equilibrium temperature. This is easily effected by having an enlarged hopper built over the preliminary plodder. With batch operation the soap is allowed to rest in the transfer buggy. Plodder nose temperatures are held between 96 and 107°F. by electric heaters and thermo regulators. A cold water ring built into the plodder just before the hot ring adds gloss to the finished bar, but is not a necessary adjunct. The exact movement of the soap through the converging plodder nozzle and shaping ring has been studied at some length but is not yet well understood. It is quite likely that the soap under the influence of

pressure and heat undergoes phase transformations which increase its plasticity. Cracking of the bar on wash down tests may be connected directly with conditions of plodding, which in turn is chiefly influenced by plodder temperature control, moisture content, titer and total electrolyte in the boiled soap. Other factors of the formula may mask these fundamentals and provide a very difficult problem for solution.

IN CERTAIN cases and with certain types of formulae, milling of the soap may be dispensed with entirely. In such cases, the soap after amalgamation passes direct to a spaghetti plodder which transfers it cascade style through three, four, five or more similar plodders before it reaches the final bar forming type. In each of these plodders a fine screen precedes the final plate so that the short spaghetti pencils of soap are really multi-bundles of longitudinal fibres. Hard pieces of soap remain on the screen which must be cleaned from time to time. The bolts should be of soft metal to shear off under extreme pressure. Since this is of frequent occurrence in starting up cold, the process is most adaptable to continuous production. The soap from the final plodder has definite longitudinal grain which makes it much more subject to cracking than soaps produced by the milling process. Plodders where possible, whether used as above or otherwise, should be inside plated against rust which may chip off into the soap. I have seen such specks in toilet bars which still contained sufficient unoxidized iron to make them quite magnetic.

Automatic cutters may be quite complicated or very simple. Some automatically vary the length of the cut by the width of the bar. Others are just straight wires or knives which cut off uniform sections. With a box die the proper length is very important and determines the extent of the end marks on the bar. It is not possible to eliminate these entirely since the only pressure available to fill the box on the end is a side one. Sufficient pressure should be used to give the minimum mark without undue

press strain. A double kick is usually given the bar. For fast continuous production, steel water cooled dies are best. Cheaper brass dies may do for intermittent use. Die lubricant is important and may vary from high grade petrolatum oil to glycerine and water solution. Belts and guide rails should be free of any sharp edges or lacings that might rub the bar.

With specialty production, and foot press work, pin dies are a frequent necessity. In this case, end marks are absent since the die cuts off the excess soap. For fine work each cake should receive a double kick. This thins the exuded soap layer and facilitates trimming. It also slightly lowers the cake weight so that carelessness of the press operation can account for considerable loss of soap through improper pressing. Automatic pin die presses are also available for continuous production.

Considerable care must be exercised in regard to the care and operation of the dies. Careless setting up of the press, poor setting of the name plates if detachable or improper cleaning can result in deterioration which is very expensive to overcome and which results in unattractive appearance. Inserted name plates are not usually satisfactory because after considerable use, the line of separation can often be seen on the finished bar. If such plates are necessary then the bar design should carry a line around the insert perimeter. Recessed designs are not difficult to wrap and pack without marring. Embossed designs are distinctive in appearance but should be used sparingly and then only when box packed for protection.

WAR economy has over the past few years prevented normal wrapping of toilet soaps, with subsequent resulting damage. Now that restrictions have been lifted, large manufacturers have returned to pre-war levels of wrapping. This includes in most cases a protective glassine sheet followed by a good stiffener of cardboard whose edges just exceed that of the bar, plus the outside wrapper. Wrapper inks should be alkali fast of course, and the glassine paper sulfite

free. Otherwise it may cause discoloration. Fancy soaps and novelties are frequently wrapped in moisture-proof cellophane or pliofilm and boxed. The pliofilm coat makes an extremely nice finish but is somewhat fragile due to thinness.

For the smaller manufacturer in this field the principal points to bear in mind for quality production are a quality conscious personnel, clean habits of working and attention to the principal units of operation as outlined above. A diversified production is quite possible at nominal cost using a standard continuous line of production in conjunction with two discontinuous lines. Labor exclusive of kettle and dryer operation is estimated at about twelve men and ten girls for a daily production capacity of about five tons.

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Glycol, or preferably its mixture with isopropyl alcohol or chloroform, possess high solvent power for soaps. These may be directly titrated with strong acids, either potentiometrically or with the use of methyl red or methyl orange. The ionization of the organic acid is suppressed so that salts of weak acids can be directly titrated by this method. The colors of the indicators are brighter and the end-point sharper than in alcohol or water. S. R. Palit. *Oil & Soap* 23, 58-60 (1946).

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The iodine number of an oil is raised by the selective saponification of the saturated glycerides. Animal or vegetable oils are diluted with 25-75 per cent of a hydrocarbon or halogenated hydrocarbon such as dichloroethylene, and treated with 30-90 per cent of the alkali theoretically necessary for complete saponification of the oil. The saponification is allowed to proceed slowly at room temperature after which the unsaponified oil is extracted with the same solvent used during saponification. The solvent is distilled leaving an oil with approximately 2-10 per cent higher iodine number. The soaps obtained are improved and are more stable since they contain less unsaturated fatty acid. L. O. Buxton, to National Oil Products Co. U. S. Patent No. 2,380,413.

LIQUID SOAPS

*By H. E. Peterson**

Continental Can Company

PACKAGING of soaps has also caused the soap manufacturer as well as his container supplier untold headaches. During the war only a small percentage of cans were available for soap products unless a government contract was involved. However, even if this type of contract was being filled, it was necessary for manufacturers to use substitute plates in almost every instance. This combined with the fact that soap makers were also using substitute materials created an even larger number of packaging problems than commonly arise in normal times.

There are essentially three distinct problems encountered in the packaging of soaps in metal containers. These are:

1. Turbidity, precipitation, and discoloration of the product which we shall group together for the purposes of this discussion.
2. Corrosion of the cans.
3. Leakage at the double seams.

In some cases such problems appear to be caused by certain components of the product and are not the fault of the container. For example, soap perfumes are sometimes the cause. Every soap perfume is in itself a different problem and a perfume blend which is good in one formulation is not necessarily good in others. A competent soap perfuming house should be consulted in such cases. Storage of esters, aldehydes and phenols and other soap perfuming agents in iron or tin drums may result in the production of unsuspected im-

purities which may cause trouble in the finished product. Also, hard water or other contaminated water often creates difficulties if used in the manufacture of the soap.

When the percentage of lime or magnesia in the water is large, it should be reduced. An inexpensive method sometimes used is to add 5% sodium silicate to the hard water. This precipitates the lime and the water is then sufficiently soft to use. In still other cases regular water softening equipment is most advisable. Sometimes the addition of other components such as 5% glycerine and 5% isopropyl alcohol, small amounts of tetrasodium pyrophosphate or sodium metaphosphate will serve to clear the solution and increase its stability to turbidity.

In other instances the defects, especially discoloration are the direct result of a reaction between the container and the product. For example, it is known that iron has an adverse effect upon some types of liquid soaps, causing discoloration. The ordinary orterne plate container is, of course, approximately 99% steel which is covered by a thin coating of tin orterne. In the manufacture of all standard cans, the continuity of this thin coating is not perfect and, therefore, some iron is always exposed. Also, liquid soaps usually contain a small amount of free alkali. The tin coating on the inside of the cans contains small amounts of tin oxide which is eventually reduced to black tin, causing discoloration in varying degrees.

These difficulties can be partially controlled by the inside enamelling

of the containers. However, even this is not always 100% successful, since to date no one has been able to formulate enamels impermeable to moisture vapor and gases at film weights which permit satisfactory fabrication after application to flat sheets. The container companies are constantly striving to obtain metallic or organic coatings with good adhesion to steel, and which have sufficient flexibility for fabrication. These must be resistant to the formation of even traces of the invisible film of corrosion products which cause the protective enamel film to lose adhesion under the combined action of air, water vapor and chemical reaction of the product, especially at high temperatures. While there are a large number of enamels used in the container industry, they can be divided essentially into the following three main classifications:

1. The thermosetting or phenolic type enamels which have high chemical resistance but normally have relatively poor fabricating properties.
2. The oleoresinous type enamels which have the least chemical resistance but have better fabricating properties.
3. The thermoplastic type which has the best fabricating properties and normally has a chemical resistance somewhere between the oleoresinous and phenolic type enamels.

Modifications of these types are constantly being investigated and the container industry as a whole now has better enamels available to it than it has ever had. Not all styles of cans are suitable for inside enamelling, however. The type having an oblong or rectan-

* Before Potash Soap Division, Association of American Soap & Glycerine Producers, Hotel Roosevelt, New York, Jan. 10, 1946. In Mr. Peterson's absence the paper was read by W. K. Newman of Continental Can Co.

gular base, which is the type usually used for liquid soaps as well as insecticides, self-polishing waxes and the like is one of the most difficult to inside enamel. This is because these cans are usually made inside soldered to permit the outside lithography to cover the can completely. Inside soldering is done on an inside "horse" or mandrel on which the can slides during soldering. Such action often scratches and abrades the enamel. Round base cans on the other hand, are more often made on an outside horse or mandrel which circumvents this problem. Consequently, the choice depends upon whether the soap maker wishes to provide more complete coverage of the metal plate inside and have a clearer product, or whether the sales appeal of the completely lithographed package and perhaps more suitable shape of package is to be considered the more important factor.

THE second general problem in packaging soaps is one of corrosion. Due to the high moisture content of most soaps, corrosion of the metal plates usually takes place unless proper inhibitors are added. The degree of corrosion will depend largely upon the type of plate which is used in the manufacture of the can. As one would expect, the thicker the coating of tin or terne, the less the corrosion, other factors being equal.

It might be well at this point to review briefly the types of tin and terne plates now being produced. The heaviest weights of these coatings are produced by the so-called hot dip process in which the steel sheet is immersed in the molten metal. Even though a shortage of tin is still very prevalent, the government permits the use of 1.25 lb. hot dipped tin plate cans for liquid soaps. This is, in itself, an indication of the problems encountered in packaging this type of product. Terne coatings are also applied by hot dipping. They consist of a mixture of approximately 15 per cent tin and 85 per cent lead.

Electrolytic tin plate so-called, is a product perfected at the beginning of the war. As now produced, it consists of plate coated with thinner applications of tin than is produced by the

hot dip process. The electro plating method permits the high-speed, low-cost application of uniformly thin coatings of tin at various coating thicknesses and also presents the potential advantage in that it permits the same type application of other metals which never could be applied to steel by hot dipping methods. Very preliminary work indicates that the application of a combination of pure iron and tin, nickel and tin, zinc and tin, and nickel and chromium may also have interesting possibilities in the future manufacture of containers.

During the war emergency, many products formerly packed in tin or terne plate containers were packed in enamelled deoxidized steel plate containers. However, it is certain that the use of such plate will be greatly lessened as more tin becomes available, since in general it has relatively low resistance to corrosion. It will probably not be used extensively for liquid soaps, but will have some use for certain paste soaps.

So-called bonderized steel plate, a tin-less plate, was also used extensively during the war, but will be only mentioned briefly here since economic factors will probably militate against its use for soaps as tin again becomes more freely available.

As indicated before, the selection of plate for a particular product depends upon the characteristics of that product, especially its corrosiveness, and to a certain extent the storage life desired. The more corrosive the product, the heavier the weight of coating required. Often, of course, the product is so corrosive that even the heaviest coating and costliest plate is not satisfactory. The use of an inhibitor in the product is indicated in such cases.

THE third problem outlined previously is that of leakage at the double seams; that is, the top and bottom horizontal seams which are rolled and not soldered. The old method of introducing the seaming compound was accomplished by what the container industry terms "flange cementing." This was done by passing the can end, after flanging, through a solution

of cement. The bottom and the top were then seamed to the body before the solvent completely evaporated. Quite often there were portions of the flange which were not covered by cement. A penetrating product, such as liquid soaps, will leak through the seams. However, almost all manufacturers now apply the end seam compound, which is normally a rubber or mixture of resins, directly to the ends and the solvent is then driven off by passing the ends through an oven. This assures a more uniform method of sealing and if a resistant compound is used, it normally eliminates most of the leakage.

So much for the usual liquid soaps. There are a few special products which we shall mention briefly. The first is hand paste. Drying of hand paste in the can has been one of the chief "bugaboos" of manufacturers of products containing from 40-70% water and these products are certain to dry if left in the open. The result is that in a large number of cases the paste becomes a hardened lump in the bottom of the can before the contents are completely used. The addition of $\frac{3}{4}\%$ of glycerine aids in keeping the product soft but where the cover of the can is removed and left off, this amount of glycerine cannot do the impossible in keeping the contents pliable.

Most linseed oil soap causes corrosion of metal containers so that considerable rusting occurs in the headspace and almost complete detinning occurs below the level of the product. We have found that the addition of 0.2% sodium silicate plus 0.1% of sodium chlorate completely eliminates this difficulty. Also, rusting of the container with subsequent discoloration of the product is sometimes encountered in the packaging of paste type pine oil soaps. We have determined that the addition of 0.1% of sodium metasilicate inhibits this corrosion. These are specific examples of what can be done by the proper use of inhibitors.

To sum up, the proper use of enamels and coated plates and the intelligent use of inhibitors can go a long way in solving the packaging problems relative to liquid soaps. Each
(Turn to Page 91)

SHAMPOOS

Second in a series of articles reviewing their type, composition, use, properties and manufacture

By Dr. E. G. Thomssen

MOST of the shampoo preparations on the market are merely variations of a few basic formulas. There are, as we have said, soapless shampoos, comprising latherless and lathering types, and soap shampoos.

A typical soapless shampoo liquid has this composition:—

	Pounds
Sulfonated Castor Oil (75%)	60
Sulfonated Olive Oil (75%)	20
Mineral Oil (Light)	3
Distilled Water	14
Glycerin	3½
Perfume	½

This product can be put together very simply as the ingredients mix readily. It is advisable to mix the perfume with the glycerin and add the mixture to the rest of the ingredients which have already been blended together. If sufficient quantities of sulfonated oils are consumed it is more economical to sulfonate them than to purchase them. The process for carrying this out is not a very difficult one. Two methods are presented to guide those who may desire to sulfonate their own oils.

Sulfonated Oil

	Pounds
Castor Oil No. 1 Grade	150
Sulfuric Acid 66° B.	33

Carry out the operation in an acid proof tank of about 75 to 100 gallon capacity, equipped with a suitable agitator. Run the oil into the tank at room temperature. Add the acid to the oil, with the agitator in motion, very slowly. This operation should require about 4 hours. The temperature of the mix should never

exceed 40° C. (104° F.) as the oil oxidizes above this temperature. It is customary to keep it at 35° C. (95° F.). Let the mass stand over night. The next morning add two volumes (about 50 gals.) of water in which is dissolved 10 lbs. of sodium sulfate (Glaubers Salt), stirring well. Settle out the water, excess acid and sodium sulfate and drain off. To neutralize the oil properly it should be slightly on the acid side. About 18 pounds of 40° B sodium hydroxide lye are added and stirred in to accomplish this. Finally enough water is added to bring the total yield of sulfonated oil up to 223 lbs. This oil is bright, gives a slight opalescence when dissolved with water and gives a clean solution in alcohol-water.

A method which has been used for sulfonating olive oil follows:

Sulfonated Olive Oil

	Pounds
Olive Oil	100
Sulfuric Acid 66° B.	20

Add acid to the oil as above. To neutralize the oil add a solution of 10 lbs. soda ash in 50 lbs. water. Use a tank of from 100 to 120 gallons capacity for this charge. Fill the tank with soft water and agitate. Settle for two days, and run off the slightly acid water. Then dissolve the oil, which should be slightly on the acid side, in 85 lbs. soft water at a temperature of from 75° to 85° F.

The foaming or lathering types of soapless shampoos are most popular in liquid form, though it is possible

to make them in jelly or powdered form. They consist of surface active agents, dissolved in a water-alcohol solvent or of liquid mixtures of these wetting agents with a sulfonated oil. When it is desirable to make the solution heavier or more viscous, other ingredients are added. These consist of mucilages made from gums, the alginates or methyl cellulose, glycerin, fatty alcohols like cetyl alcohol, lecithin and mineral oil. Care is necessary in making such additions as the gum solutions particularly are apt to be thrown out of solution. Since these shampoos show resistance to hard water because their calcium and magnesium salts are soluble in water, they rinse freely from the hair and nothing should be added to detract from this desirable property.

The surface active agents or wetting agents used in making this kind of shampoo are numerous. Lauryl sulfate is quite generally used in several popular types. The alkyl-aryl sodium sulfates are also quite satisfactory. Many others under coined trade names are available in solid, liquid and paste forms. It must be borne in mind that these wetting agents are usually not 100% pure. For that reason their foaming power varies and the cheapest one is not always the most economical to use. This fact also is necessary to consider in formulating the shampoo.

As specific formulas are rather difficult to present, it is better to consider this phase of our subject in a

more general way than for the other types of shampoos under consideration. In general then, it may be advised that the percentage of wetting agent in this type of liquid shampoo may vary from 10% to 75%. The amount of water present, may be from 25% to 90%. Since these shampoos are freezable, it is advisable to add a freezing point depressant like alcohol, glycerin or propylene glycol. This may vary from 10% to 20%. When a sulfonated oil is combined with the surface active agent this may comprise from 25% to 75% of the total percentage of wetting agent and sulfonated oil present in formula. Additions of the thickeners mentioned above are usually 5% or below. Perfume is added in the proportion of about 8 oz. per 100 lbs. of finished shampoo.

In making a shampoo in this category, clarification is important. For that reason the finished product should be aged before filtering at room temperature or be filtered while chilled.

THE soap type of shampoo falls into three forms, solid, jelly and liquid. The solid form may be either compact or powdered. Solid shampoos comprise soap with or without certain additions. These additions may be for the purpose of medication or for tinting the hair. In spite of the great amount of propaganda put out for liquid shampoos, surveys show that cake soap still is used in large volume for washing the hair. While it is true that shampoos are purchased in big volume, the cake of soap is most readily available in the bath and is used for shampooing as well during the bathing operation. For that reason many soapers feature their toilet soaps "for the bath and shampoo."

There are, however, special shampoo solid soaps. Of these the pure cold-made, coconut oil soaps and tar soaps in cake form probably lead in popularity. Pure coconut oil soap is made by the well known cold process from a high grade high lauric acid oil and caustic soda lye. If a milled soap is desired, some of this soap may be amalgamated and milled with ordinary toilet soap base to increase the coconut oil content to about 40%

at which point it will plod properly. The so-called hair tint soaps are made by this method and a rather high percentage of approved aniline dyes of suitable shades and mordants are incorporated. If pine tar or other medicament is to be incorporated this can also be added to milled soaps. It is customary to add about 5% of soap makers grade of pine tar and to color the soap black or dark brown by the addition of the proper soap color like lamp black, burnt umber or nigrosine.

Soap in powder form is not too popular. Perhaps the most widely used shampoo powder is henna shampoo, usually packaged in envelopes sufficient for one shampoo. Two popular shades are the golden and the silver. One gives a reddish cast to the hair, the other whitens it. Formulas for these are viz:—

Golden Shampoo

Toilet Soap Powder....	25 lbs.
Borax	22 lbs.
Henna Powdered	3 lbs.
Aubepine Powder	1 oz.

Silver Shampoo

Toilet Soap Powder....	28 lbs.
Borax	22 lbs.
Aubepine Powder	1 oz.

Shampoo jellies no longer seem to enjoy the same degree of popularity they did in the past. This is due to their not possessing the ready facility of use which characterizes cake soap or liquid products. They have erroneously been termed "egg shampoo" and some are colored yellow to simulate the shade of egg yolks even though no egg or even albumin is incorporated. This omission is hardly of importance as far as beneficial properties is concerned, for the external application of a small amount of egg in a soap is hardly of any benefit to the hair or the scalp. Yet the credulity of users has been imposed upon, in the past, by their belief in egg shampoos.

PASTE or jelly shampoos fall into two classes — those which are opaque and those which are semi-transparent. Formulas for both types are given. For the opaque type the first two compositions are typical:—

I. Paste Shampoo

	Pounds
Olive Oil Denatured....	90
Coconut Oil (Cochin Type)	22½

Soda Lye 20° B.....	45
Potash Lye 20° B.....	510
Stearic Acid XXX.....	428½

Bring exactly to the neutral point and then add enough hydrochloric acid to set free 3% free fatty acid.

II. Egg Shampoo Type

	Pounds
Coconut Oil Cochin Grade	100
Potash Lye 28° B.....	100
Yellow Color	Q.S.

Saponify and bring weight up to 200 lbs. with water to compensate for any evaporation. Then add 10 lbs. coconut oil and 2½ lbs. potassium carbonate.

III. Shampoo Jelly (Transparent)

	Pounds
Coconut Oil (Low free fatty acid)	256
Potash Lye 28° B.....	274
Glycerin	25
Alcohol S.D. 3A.....	15
Perfume	3

IV. Shampoo Jelly (Semi-transparent)

	Pounds
Tallow (Bleached)	150
Coconut Oil (Cochin)....	75
Castor Oil (No. 1 Grade)	75
Simple Syrup (2 Sugar to 1 Hot Water).....	100
Alcohol S.D. 3A.....	100
Water Distilled	60
Potash Lye 38° B.....	182
Yellow Soap Color.....	Q.S.
Perfume	4

The coconut oil and other fat charges are saponified by heat and agitation. Glycerin may be added to aid this process during the heating. Alcohol should not be added until the temperature drops to about 115° F. to prevent undue evaporation and the mixer should be kept covered. When stearic acid is used it should be melted separately and added to the lye in the mixer rather than vice versa. It is customary to fill the shampoos while they are warm enough to be in the liquid state. When transparent jellies are made, samples should be drawn and chilled to observe their transparency. If cloudy, this can usually be corrected by slight additions of glycerin or alcohol. Perfumes should not interfere with the clearness of this type.

LIQUID, soapy shampoos are preferred by most users of shampoos as we have already intimated. The facility of use, quick abundant lather, workability in hard water and easy and thorough rinsing properties make liquid coconut oil soaps or other high

lauric soaps preferable. It is possible to substitute other liquid oils or fatty acids for the coconut oil. Such replacements, however, reduce the desirable lathering qualities and in some cases make the preparation more viscous or heavy. Oils which are substituted include olive oil, cottonseed, soya bean, corn oil, castor oil and a specially distilled red oil or oleic acid. When such substitutions are made it is necessary to determine the free alkali in the finished soap closely, as coconut type oils require more lye to saponify them than the others mentioned. The coconut oil may safely be substituted up to about one-third by other oils in the formulas presented below. Several formulas are presented, one of which contains no coconut oil at all in the fat charge.

I. Typical Formula

	Pounds
Coconut Oil	130
Potash Lye 28° B.....	135
Borax	2
Water	220
Glycerin, Alcohol (S.D. 3A) or Propylene Glycol.	50
Perfume	3

II. No Alcohol

	Pounds
Coconut Oil	181
Potash Lye 28° B.....	187½
Sugar Syrup (50 lbs. Sugar to 50 lbs. Water)	100
Borax	2¾
Perfume	3½

III. High Alcoholic

Coconut Oil	45 lbs.
Potash Lye 34° B.....	30¾ lbs.
Alcohol (S.D. 3A).....	44 lbs.
Perfume	10 oz.

IV. Heavy Shampoo

Olive Oil	88 lbs.
Corn Oil	22 lbs.
Alcohol	92 lbs.
Glycerin	18 lbs.
Potash Lye 39° B.....	33 lbs.

V. With Triethanolamine Soap

Coconut Oil Fatty Acids	121 lbs.
Potassium Hydroxide (Solid)	36½ lbs.
Dissolved in Water.....	680 lbs.
Triethanolamine	19 lbs.
Perfume	10 lbs.
Green Soap Color	½ gm.

VI. Tar Shampoo

To each gallon Shampoo No. 1 add 6 drams Oil Pine Tar and 1 dram Oil of Tar.

While these formulas are all types that have been successfully employed, they by no means cover every category. Many other combinations of oils are possible, and in numerous cases other builders or cleansers than the borax mentioned are added. Some

of these are the phosphates like sodium or potassium tetrapyrophosphate. These not only aid in cleansing but also aid in clarification. Usual percentages vary from 1% to 3% on the weight of the finished shampoo.

TO make these shampoos, first saponify the oils with the potash lye and add the borax dissolved in the water. Continue mixing, while hot, until the soap is in solution. If alcohol or sugar are added do not make the addition until the temperature drops to around 115° F. The perfume should also be added at this point as well as any color. When the solution is complete and the charge is cool, it is pumped to storage tanks for clarification.

The clarification including proper filtering of liquid shampoo soap is dependent upon several conditions of which these are the most important:—

- 1.—Composition of the oil charge
- 2.—Proper saponification
- 3.—Absence of impurities
- 4.—Ageing or reducing temperature
- 5.—Use of proper filter media and filter.
- 6.—Use of chemical clarifiers

First, coconut oil is the best oil from which to make a clear liquid soap. Coconut oil fatty acids or the oil itself may be used. Soya bean oil, corn oil and olive oil may be used with the coconut oil as already stated. Caustic potash must in all cases be used to saponify or neutralize the oil or fatty acids.

Second, proper saponification means that when the oil or fatty acid is made into soap there should be present in the soap an excess of about 0.3% free alkali calculated as sodium carbonate.

Third, absence of impurities has to do mostly with the water used. This should be either properly softened or distilled water. Hard water introduces lime soaps which are water insoluble and produce cloudiness. Ionic water treatment provides a good apparatus for purifying water for liquid soap.

Fourth, it is necessary to either

age or reduce the temperature of liquid soap before filtering it. Ageing may be carried out in tanks, preferably with a cone bottom. Horizontal or open top tanks may also be used if desired. In this case, however, these tanks should be tilted away from the opening through which the filter is fed. The soaps should stand and settle 10 to 20 days to settle out the cloudy portion. Only the supernatant soap should be filtered. Then the cloudy layer (bottom 6-12 inches) is collected and filtered 3 or 4 times with filter media and added to a fresh lot of finished liquid soap.

Liquid soap which is filtered at reduced temperatures throws out the cloud producing substances because water has less dissolving power at lower temperatures. To carry out this process in the winter time the soap may be stored out of doors. In the warmer seasons a properly constructed chilling tank into which either brine coils or direct expansion coils are installed, is needed. Some manufacturers prefer a low pressure compressor unit with cooling units made of sheet metal about 2" x 8' x 4' into which cooling brine is pumped, or low pressure gas is expanded. While cooling soap, it should be slowly agitated. It is customary to run the cooled soap to an insulated storage tank which feeds the filter. The temperature of the soap when being filtered should be about 49° to 45° F. for best results, although some manufacturers permit as high as 55° F.

Fifth, a filter press may be either the closed or open delivery type, preferably open delivery. The capacity depends upon the daily output but one should be sure to buy a press of larger rather than smaller capacity.

Several suitable filter media are available, either for precoating the filter press or dispersing thru the soap. It is good practice to get the pamphlets from the manufacturers as to how to use these filter media most efficiently. The soap should not be filtered rapidly at too high pressure. It is much better to clean out the press more frequently and take more time to do a good job.

(Turn to Page 91)

Request Soap Quota Changes

At Washington Hearing Apr. 2-5

DEMAND for revision or complete repeal of quota restrictions on soap makers was voiced by a number of witnesses at open hearings in Washington, April 3 and 4, before the House Small Business Committee, which is currently investigating charges of discrimination in the administration of WFO-42b, the Department of Agriculture order regulating use of fats and oils by soap makers. Conflicting views on the fat and oil supply outlook were presented at the hearing, with Department of Agriculture representatives voicing the opinion that the supply situation is not sufficiently encouraging as yet to permit abandonment of quota controls.

Representative Emanuel Celler of New York attacked the quota set-up in testimony on the opening morning, charging that it freezes and perpetuates a "monopoly" which a few large manufacturers have on the soap business. He referred to the Association of American Soap and Glycerine Producers as a "front for the big three" and accused the administrators of WFO-42b, most of whom he reminded have been connected with large companies, of perhaps unconsciously favoring large companies in carrying out the provisions of the regulation.

Referring to Section 204 of the War Mobilization and Reconversion Act of 1944, he charged that this act is being directly violated by the Department of Agriculture, and he reported that the violation had been called to the attention of the Attorney General of the United States. Section 204 of this act provides that

"whenever the expansion, resumption or initiation of production for non-war use is authorized on a restricted basis by any executive agency having control over manpower, production or materials, the restric-

tions imposed shall not be such as to prevent any small plant capable and desirous of participating . . . from so participating. . . .

REPRESENTATIVE CELLER was followed by E. O. Gillam of Gillam Soap Works, Fort Worth, Texas, who said in part:

"During the war the smaller soap manufacturers managed to keep their plants in operation on permitted quotas, largely by making soap for the Government. Because of the seeming reluctance of the large manufacturers to supply the military, (approximately only 6 per cent of their total wartime production going to the military), the small manufacturers were called upon to supply and did supply approximately 80 per cent of their production to the military, even increasing their production capacity to fill pressing government needs. With the war now over and government procurement practically nil, with millions of service men and women returning, there is quite an increased demand for civilian soaps; yet we are still forced to operate under the same quotas under which we operated during the very peak of government demand! This creates an almost chaotic condition. The smaller manufacturers face serious problems in their low quotas and enlarged plants (at the request of the military); and also with the increased demand from civilian users.

"The increased demand for soap and the availability of fats and oils supplies a fertile field for 'black market' operations. In a recent survey of a portion of Texas, we found more soap produced by 'black market' operators in one month than quotas would permit legitimate manufacturers to make in a whole year! Inexperienced in soapmaking, and without the proper equipment, these blackmarketeers, of necessity, waste considerable quantities of fats

and oils. Also the soap produced is inferior and sells at inflated prices, which often range from two to three times the amount set by OPA as ceiling prices for established manufacturers. In many instances prices have been set by OPA for these 'black market' operators.

"Surely the continuation of WFO-42b is not going to create more fats and oils or distribute them in an equitable manner to permit comparable operation of the large and small soap manufacturers; nor will it eliminate the inferior and high-priced soaps of black market operators; nor will it put more soap on the shelves to meet the pressing consumer need; however, it is evident that a release of this restrictive order freeing the soap industry from unnecessary restrictions, would accomplish these things."

C. B. HEINEMAN, secretary of the National Independent Meat Packers Association, was another witness at the April 3 session, testifying in part as follows:

"The supply of fats and oils has been materially affected by the present black market in live stock and meats. Where it is necessary to slaughter an animal surreptitiously, it can easily be seen that many of the by-products will be inefficiently handled and wasted. These operators are not concerned with the use of the by-products normally derived from the slaughter of livestock; they kill the animal, dress it, sell the meat, and throw away the offal which would otherwise enter into normal legitimate channels for consumption. When such a large proportion of livestock slaughter is illegitimate, it seems obvious that a similar proportion of the inedible fats are either wasted completely or directed into illegitimate channels.

"It is the belief of The National Independent Meat Packers Association

that continuation of controls in both the meat packing and soap manufacturing field act:

1. As a strong deterrent to the resumption of legitimate operations;
2. As a condition tending to deny the American people the benefits derived from animal by-products;
3. As a conscienceless waste of materials;
4. As a positive encouragement and support to those unscrupulous persons who feed on shortages through the medium of the black market.

E. W. WILSON of Armour & Co., Chicago, a former administrator of FDO-42, presented a suggested program for revision of WFO-42b, the following extracts from his statement indicating the scope of the suggested program:

"During the war as much as 25 per cent of the country's total soap production went to the Army, Navy and other exempt uses. The Department of Agriculture has estimated that in 1946 the quantity of fat required for these exempt uses will be reduced from 520 to 252 million pounds. In view of this reduction in requirements and of the prospect for somewhat larger supplies of soap fats in 1946, we believe the Department should now review the situation with the object of removing quota restrictions if conditions warrant.

"A study of the 1946 calendar year outlook for fats and oils prepared by statisticians of Armour & Co. shows the following comparisons:

(Million lbs.)		
	1945	Armour Estimated 1946
Vegetable oils, production from domestic seed.....	3,448.0	3,489.4
Vegetable oils, production from imported seed.....	504.8	642.0
Vegetable oils, imports.....	322.5	359.6
Animal oils, fats and greases, production.....	5,837.7	6,324.5
Animal oils, fats and greases, imports.....	52.4	52.4
Fish oil, production.....	170.8	200.2
Fish and marine mammal oils, imports.....	36.5	44.0
TOTAL	10,372.7	11,112.1

"About 89 per cent of the primary fats and oils consumed in soap during 1945 is accounted for by five fats and oils. These fats and oils are used to some extent in other products also. A comparison of 1946 estimated production or imports compared with 1945 preliminary actual production or imports for these five fats and oils is as follows:

(Million lbs.)		
	1945	Armour 1946 estimate
Inedible tallow production.....	1,157.2	1,162.1
Inedible tallow net imports.....	32.0	32.0
Grease production.....	583.0	625.0
Coconut oil production.....	149.3	300.0
Coconut oil net imports.....	40.0	40.0
Palm oil net imports.....	60.0	60.0
Fish oil production.....	169.7	195.0
TOTAL	2,191.2	2,414.1

"The outlook is for 10 per cent larger production and imports of soap fats in 1946 than in 1945. Even after allowing for 50 million pounds of this total being added to stocks during the year, supplies will still be slightly larger than in 1945.

"On its war record we believe the soap industry is entitled to relief from restrictions as soon as conditions warrant. Some of the other consumers of inedible fats such as lubricant and printing ink manufacturers are not restricted. Canada, we might recall, restricts the use of fat and oil in civilian quota soaps to 88 per cent of 1940-1941 use, while American soap manufacturers may use only 78 per cent (package and bar) or 84 per cent (bulk package) of 1940-1941 use. This difference in quotas is difficult to understand in view of the fact that Canada must import a larger proportion of her fats and oils than the United States.

"If the Department of Agriculture decides that quotas on soap fat must be retained at the present time, we strongly recommend that WFO 42b be revised by changing the quota base

base years are permitted to retain their favorable position and to monopolize that marginal portion of the soap business which normally fluctuates between the various companies. Those companies which were in the process of developing new brands, installing new equipment or for some other reason were not engaged in full production in the base years are bound to their relatively unfavorable ratio. To freeze soap manufacturers for nearly four years and for the indefinite future in the relative positions they held in a base period beginning six years ago is inequitable because it gives an unfair advantage to those who happened to have a good base period and is an insurmountable barrier to the progress of those who happened to have a poor base period.

"By freezing small soap manufacturers' production of civilian soaps to a fixed ratio of a remote base period, 1940-1941, the order fails to take into account important changes brought about by the war in the soap industry. The over-all demand for quota-exempt soaps such as yellow laundry soap for the Army and Navy, soap flakes for synthetic rubber, hard-water soap for the Navy, etc., was tremendous. These are mainly low-profit items and many manufacturers were unwilling to produce them during the war in quantities proportionate to their plant capacity and their quotas for higher-profit civilian soaps. Small manufacturers were therefore encouraged to invest in new equipment and expand their plants in order to fill the demand for war soaps. When government contracts were cancelled after V-J Day, small soapers found themselves with greatly increased capacity, overhead and payrolls but their production restricted to around 80 per cent of production prior to expansion.

(Turn to Page 94)

TURNER

CHEMICALS

CAUSTIC SODA

PERSULPHATE OF POTASH

PERSULPHATE OF AMMONIA

JOSEPH TURNER & CO

RIDGEFIELD, NEW JERSEY

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PROVIDENCE, R. I.

435 N. MICHIGAN AVE.
CHICAGO 11, ILL.

L. H. Schultes Out of Navy

Leonard H. Schultes, Lieut. J. G., U.S.N.R., has been released from active duty by the Navy and has returned to his position in the sales department of the Hewitt Soap Co. at the New York office. He was in the Navy for two years spending most of the time in the Pacific chiefly in the Aleutian area. Mr. Schultes who has been with Hewitt since 1936 is the son of Martin Schultes, vice-president of Hewitt Soap and chairman of the New York BIMS.

Offer New Soapless Cleaner

K. P. Chemical Co., 16 W. 40th St., New York, has recently introduced in the institutional field a new all-purpose, powdered soapless cleaner, "K P," for use in hard, soft or sea water, hot or cold. Containing no abrasives, it is said to be satisfactory for cleaning anything from machinery to fine silks. Packaging is in 50 lb. cartons or 350 lb. drums. One teaspoon to a gallon water is the recommended dose.

L. W. Peck Rejoins Peck's

Ensign L. W. Peck, U.S.N.R., has rejoined Peck's Products Co., St. Louis, as an officer in the company, after three years of active duty with the Naval Air Forces. His return marked the first time all the Peck family has been united in the business in five years.

Stedman Lever Detroit Sales Head

Theodore B. Stedman, who has been with Lever Bros. Co., Cambridge, Mass., since 1926, has recently been named Detroit division sales manager of the company. He will have charge of sales personnel, distribution, and sales of all Lever products to the grocery trade. Formerly Minneapolis division sales manager, Mr. Stedman started with the company 20 years ago

as a salesman. He has been supervisor, divisional field supervisor, west-



THEODORE B. STEDMAN

ern field manager, assistant to the edible sales manager, and divisional sales manager at Syracuse and Minneapolis. In his new post he succeeds H. A. Matchner who is retiring after 27 years' service with the company. L. B. Wheadon, formerly Chicago divisional supervisor has been appointed to succeed Mr. Stedman. The Detroit division is one of the largest in the United States in volume—it covers all of Michigan, the northern half of Indiana, and part of Ohio.

Frank Smart Joins Whittaker

Frank H. Smart, formerly of the plastics division of E. I. du Pont de Nemours & Co., Wilmington, recently joined the sales staff of Whittaker, Clark & Daniels, Inc., New York.

Market New Soap Powder

Kemo Products Co., Providence, are scheduled to merchandise on a nation wide basis, "Dove," a new soap powder, it was learned recently. The product will come packaged in a light green box that has for its design a dove enveloped by waves.

Swift Sampling New Cleanser

Swift & Co., Chicago, has been distributing from door to door in that city a full-size free sample can of their new "Swift's Cleanser" as a feature of an introductory campaign which has been marked by heavy newspaper advertising. The cleanser, for general household use, is announced as the first Swift & Co. post-war product. The polka-dot package design is available in three colors, red, green and blue. Also distributed with the sample was a coupon good for another free can, if a second is bought at regular retail price.

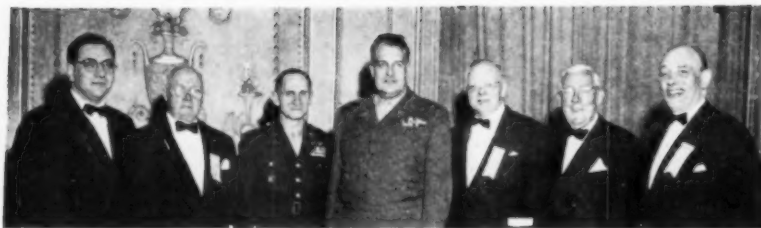
Synthetic Detergent Fat Quotas

The Department of Agriculture announced March 11 that quota restrictions were to be instituted immediately on the use of fats and oils in synthetic detergents. The change was embodied in Amendment 9 to WFO-42b, by amending the definition of "soap" to include "synthetic detergents made from fats and oils or their derivatives."

The new amendment also changes the status of rosin, which is now permitted to be used as one of the required extenders of fats and oils in the manufacture of household heavy-duty laundry-type soaps. Restrictions on the use of rosin were revoked recently by the Civilian Production Administration.

Plan Huge Times Sq. Bubble Sign

A huge new "Super Suds" sign, from which eight to ten inch bubbles will be blown at the rate of 3,000 a minute, will be erected on Times Square, New York, it was announced recently. The sign, which will be built on the Strand Theatre roof, on the west side of Times Square, will be two-thirds of a block long. It will consist of a 1,000 square foot soapflake box. Lighting effects will be used to color the bubbles at night.



Harold M. Altshul, Ketchum & Co., chairman of the Drug Section, N. Y. Board of Trade, Dr. Carle M. Bigelow, Calco Chemical, vice-chairman, Maj. Gen. Alden H. Waitt, Chief Chemical Warfare Service, Maj. Gen. Leslie R. Groves, director of the Atomic Bomb Project, Guy L. Marsters, Norwich Pharmacal Co., ex-chairman Drug Section, Ralph E. Dorland, Dow Chemical Co., president New York Board of Trade, and Robert Magnus, Magnus, Mabey & Reynard, Inc., treasurer, Drug Section.

Drug Dinner Attracts 2,200

Among the guests of honor at the 20th annual Drug, Chemical and Allied Trades Section of the New York Board of Trade dinner, held at the Waldorf-Astoria Hotel, New York, March 14, were: N. J. Gothard, president of the National Association of Insecticide & Disinfectant Manufacturers; Herman L. Brooks, president, and Stephan L. Mayham, executive vice-president of the Toilet Goods Association; William Schilling, Jr., president of the Essential Oil Association of

the United States; Ralph E. Dorland, president of the New York Board of Trade and president of the Synthetic Organic Chemical Manufacturers Association; James McInnes, Jr., president of the Salesmen's Association of the American Chemical Industry; and W. R. M. Wharton, chief, Eastern District, Food & Drug Administration. Maj. Gen. Leslie R. Groves, U.S.A., director of the U. S. Atomic Bomb Project, was the principal speaker of the evening. Over 2,200 persons in the drug, chemical and allied industries attended.

Seek Site for Soap Plant

Silicon Products Co., Los Angeles, was reported recently to be seeking approval of the San Bernadino County Board of Supervisors for the establishment of a soap factory in a building formerly occupied by the San Antonio Meat Co., at First and Pipeline Streets, near the city limits of Pomona, Calif. The present large brick structure would be used by the company as a nucleus for its soap factory and \$50,000 would be spent for development and expansion of the plant.

J. A. Corson, D. & O., Dies

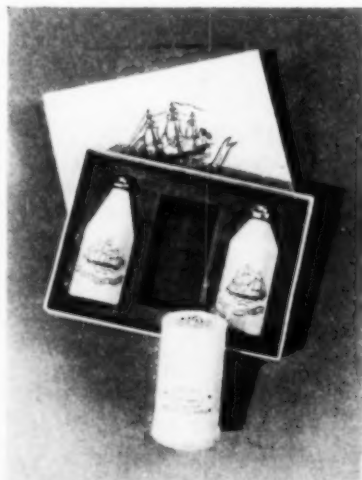
John A. Corson, vice-president of Dodge & Olcott, Inc., New York, died at his home in Hewlett, N. Y., April 3.

Hungarian Seeks U. S. Soap Lines

We have recently received a letter from Aruertesito, Kereskedelmi Iroda, Budapest, XI, Verpeleti-U.4., Hungary, offering their services as representatives for American soap manu-

facturers in Hungary. Anyone wishing to get further details may do so by writing the company at the above address.

Timed for Father's Day promotions is the new Shulton "Early American Old Spice Men's Travel Set." The first new packaging effort in the men's line since the "Overseas Set," the new package retails for around \$1.25.



Two New Soap Plants

Two new soap plants are reported in the planning stage, one in New Jersey and one in Texas. Allen B. Wrisley Co., Chicago soap manufacturers, have recently acquired twenty acres of land near Union, N. J., for the erection of a new modern plant. The company is at present operating in the East, in leased quarters in Newark, N. J. The other firm reported planning a new factory is the Iowa Soap Co., Burlington, Iowa, which will locate its new plant at Fort Worth, Texas. Confirmation of these reports has not yet been received.

C-P-P Sales, Earnings Rise

Both sales and earnings of Colgate-Palmolive-Peet Co., Jersey City, N. J., increased in 1945, as compared with 1944, it was stated in the recent issue of the company's annual report. Domestic sales of \$135,368,372 in 1945 surpassed the record sales of \$134,007,782, recorded in 1944. Net income for 1945 totaled \$7,036,054, equal to \$3.34 a capital share, compared with net income of \$7,002,483, or \$3.30 a share for the previous year. The 1945 earnings statement does not include those from the company's foreign subsidiaries, except as dividends, which amounted to \$504,723 for 1945 and \$862,001 for 1944. If actual earnings of the foreign subsidiaries had been included, instead of income from dividends, net income for 1945 would have been \$7,731,331, or \$3.69 a share, according to E. H. Little, Colgate's president.

Earned surplus, after payment of \$4,410,002 in dividends and a charge of \$420,688 in connection with retirement of \$4.25 preferred and issuance of \$3.50 preferred stock, amounted to \$21,485,127 on Dec. 31, 1945, compared with \$19,279,763 a year earlier.

C. H. Jones, Innis-Speiden, Dies

Clinton H. Jones, 54, assistant credit manager for Innis-Speiden Co., New York, died February 25. He was formerly connected with Colgate-Palmolive-Peet Co., Jersey City, N. J. Mr. Jones is survived by a widow and a daughter.

Slight Gain in 4th Quarter Fat Use

USE of fats and oils by soap makers showed a slight gain during the fourth quarter of 1945, moving up to 401,054,000 lbs. from the third quarter total of 383,997,000 lbs. Comparative figures for the first two quarters of the year were 519,920,000 lbs. and 452,487,000 lbs., respectively.

Tallow and grease continue to make up the largest, but still a declining share of the soap kettle charge. Soapers used 208,673,000 lbs. of inedible tallow and 83,558,000 lbs. of grease during the fourth quarter. This amounted to 73% of total fat and oil use during the quarter, comparing with 80% for the third quarter. Next item in volume was fish oil, with consumption totaling 35,805,000 lbs. The trend is apparently upward in movement of fish oil to the soap kettle, as comparative totals for the second and third quarters were roughly twelve and twenty-four million pounds respectively. During the fourth quarter 12,288,000 pounds of lard went into soap, about the same amount as during the third quarter.

Consumption of crude coconut oil in soap showed a significant gain during the fourth quarter,—10,608,000 lbs. as against 7,512,000 lbs. in the third quarter. Use of refined coconut oil by soapers was also up, and totaled 5,692,000 lbs. in the fourth quarter. Use of crude and refined palm and palm kernel oils also showed an upward trend. Fourth quarter figures were 6,061,000 lbs. for crude palm kernel, and 9,921,000 lbs. for refined, as against 4,201,000 lbs. and 1,952,000 lbs. respectively for the third quarter. Figures for palm oil were 8,498,000 lbs. of crude and 2,802,000 lbs. of refined, as against 5,611,000 lbs. and 2,336,000 lbs. during the third quarter.

The complete list of fats and oils consumed by soap makers during the fourth 1945 quarter follows:

Vegetable Oils

	lbs.
Cottonseed, crude	157,000
Cottonseed, refined	240,000
Peanut, crude	666,000

Peanut, refined	83,000
Coconut, crude	10,608,000
Coconut, refined	5,692,000
Corn, crude	87,000
Corn, refined	26,000
Soybean, crude	742,000
Soybean, refined	284,000
Olive edible	2,000
Olive, inedible	74,000
Olive foots	341,000
Palm kernel, crude	6,061,000
Palm kernel, refined	9,921,000
Palm, crude	8,498,000
Palm, refined	2,802,000
Babassu, crude	6,474,000
Babassu, refined	3,360,000
Linseed	196,000
Castor No. 1 crude	111,000
Castor No. 3 crude	79,000
Castor, dehydrated	3,000
Castor, sulfonated	116,000
Other vegetable	304,000

Animal Fats

	lbs.
Lard	12,288,000
Oleo oil	669,000
Tallow, edible	2,987,000
Tallow, inedible	208,673,000
Fish oil	35,805,000
Greases	83,698,000

P & G Film Views Hair Washing

Procter & Gamble Co. acted as hosts at a luncheon, at the Plaza Hotel, New York, March 14, at which a group of newspaper and trade paper representatives were shown a photomicrographic motion picture presenting a study of the washing process. The film, produced in the research laboratories of Procter & Gamble Co., studies the shampooing of hair, and is believed to mark the first time that continuous hair washing action has been studied by motion picture photomicrography.

Photomicrographic motion picture technique is used in the research laboratories of Procter & Gamble Co. in a study of the mechanics of detergency.



In making the film a single human hair was mounted in a glass cell, and the detergent action of various materials on the hair recorded by a combination microscope and camera set-up. In this particular film the varying detergent actions of soap and alkyl sulfate shampoos were studied.

H. H. Besuden of the P & G division of public relations acted as host at the luncheon. James C. Ervin of the chemical research department gave a running commentary to accompany the film and also answered a series of questions at its conclusion.

Dr. Howes Solventol V-P

C. A. Campbell, chairman of the board and president of Solventol Chemical Products, Inc., Detroit, has announced election of Dr. Willard B. Howes to the post of vice president. He had been a member of the board since organization of the company in 1935. James Rowan Ewing was elected secretary and appointed a member of the board, to fill a vacancy due to resignation of A. J. Kleffman, formerly a vice-president. S. A. Dodge, executive vice president and treasurer, was re-elected, as were the following three directors: George C. Booth, Edgar J. Sells and W. G. Gordon.

Puhl Building New Plant

John Puhl Products Co., 3700 W. 38th St., Chicago, manufacturers of household chemicals, has contracted for erection of a new and modern plant on 51st St., that city, in the Clearing Industrial District.

OILS, ABSOLUTES and CONCRETES of

Lavender ARE AGAIN AVAILABLE!



Also Available: LAVANDIN

A material of unusual interest to the soapmaker. Our lavandin is the result of years of experimentation — of careful cross-breeding to develop a select strain of lavandin with soft, lavender-like odor and exceptionally high ester content. This material is economical to use and provides an ideal replacement in soaps, technical preparations, sprays and other products requiring strength and fineness of odor at low cost.

GOOD NEWS for soapmakers — direct from the Lavender fields of Southern France! Excellent lavender oils, absolutes and concretes — of a quality far exceeding our fondest hopes — are now in stock and ready for immediate delivery. These materials are from our Seillans factory, the ONLY wholly-owned, American, floral extraction plant now operating on French soil. It gives us real pleasure to announce the availability of these oils and to resume actively our pre-war position as a leading supplier in this country of French lavender oils, absolutes and concretes. 'Phone, write or wire us for quotations.

LAVENDER USP XII Barrême 38-48% Ester

LAVENDER USP XII Drôme 38-42% Ester

LAVENDER USP XII 35-38% Ester

LAVENDER USP XII 30-32% Ester

ABSOLUTE LAVENDER Barrême (Green)

ABSOLUTE LAVENDER Seillans (Brown)

LAVENDER CONCRETES:

Barrême (Green), Seillans (Brown) and Seillans Colorless



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BOSTON CHICAGO LOS ANGELES ST. LOUIS TORONTO, CANADA MEXICO, D.F.
FACTORIES AT CLIFTON, N. J. AND SEILLANS (VARI) FRANCE

Fels Opens Own N. Y. Office

The opening of its own office in New York City, at 444 Madison Ave., effective April 1, was announced recently by Cyril G. Fox, vice-president of Fels & Co., Philadelphia. The reason given in the announcement for the change in the New York sales set up is the improvement in the efficiency of the general sales operations in the Atlantic seaboard states. Max Brown is in charge of the new office as eastern division manager. The Fels account with Paul Sayres Co. consequently has been withdrawn, the company announced.

Hiler Goes with Stephan

Malvern J. Hiler, district manager for Sharples Chemicals, Inc., Philadelphia, in their Chicago office for the past five years, joined Stephan Chemical Co., Chicago, April 1, as director of research and chemical development. Stephan Chemical Co. manufactures sulfonated oils and chemical specialties. Mr. Hiler is being replaced in the Sharples Chicago office by Bruce M. Bare, who left that office for military service in Chemical Warfare Service and later with the U. S. Army Air Forces.

Three Vets Rejoin Tesco

Tesco Chemicals, Atlanta, recently announced that three ex-service men have rejoined the firm in various capacities. Frank E. Cooper is resuming his old duties in the sales department; Dozier P. Willard is serving as a sales representative in the Atlanta area, and Frank de Peterse, Jr., a textile chemist, is acting as a service representative in the textile finishing trade.

Solvay Opens Texas Office

Solvay Sales Corp., New York, recently announced the establishment of a new office at 847 M & M Building, Houston, Tex., to cover the states of Texas, New Mexico and Arizona. Col. S. O. Taylor, a veteran of World War I and II, recently returned to the company after having served three years as executive officer at Patterson Field, Dayton, O., as a member of the U. S. Army Air Corps.

Prior to his latest entry into the Army, Col. Taylor was employed for 11 years with the Solvay St. Louis branch.



Robert G. Deupree

Deupree Leaves OPA

Robert G. Deupree, chief of the OPA Soap and Glycerine Unit, has recently resigned this position. He is reported on a short vacation, and no future plans for a new connection have as yet been announced.

Erlen Soap Moves, Renamed

Erlen Soap & Chemical Co., formerly of 2632 E. 54th St., Huntington Park, Calif., recently announced that the company has been renamed and relocated in its own newly constructed building at 700-710 So. Flower St., Burbank, Calif. The new company name is Erlen Products Co.

Advertisers Name Werner, P. & G.

William G. Werner, Procter & Gamble Co., Cincinnati, has been named chairman of the government relations committee of the Association of National Advertisers, the group announced recently.

Pennsalt Appoints Downing

Wilfred R. Downing, who operated his own dry cleaning establishment in Eveleth, Minn., before he joined the Marines, has been appointed service representative to dry cleaners in the laundry and dry cleaning division of Pennsylvania Salt Manufacturing Co., Philadelphia, it was announced recently by the company.

New Stanley Shave Creams

John T. Stanley Co., New York, for over eighty years manufacturers of private brand soap and allied products for others, have launched two new shave creams on the American market under the "Stanley" name. Both brushless and lather creams are being marketed in 2½ and 5 ounce tubes. Introduction of the new Stanley shave products is being backed by two radio broadcasts daily at present on WHN and WINS, New York, which will be increased to three broadcasts next month.

C-P-P Adds to K.C. Plant

Colgate-Palmolive-Peet Co., Jersey City, N. J., is reported to be building a million dollar addition to its Kansas City, Kans., plant for the production of a new, hard-water washing compound, it was learned recently. The new product is not a soap but a special detergent. It will use only one-eighth the fat stocks and coconut oil required for the company's companion line of soaps and soap powders. Production will be by the spray process in a new four to six story building now under construction. The building contains 40,000 square feet of floor space. It will cost about a quarter of a million dollars, the rest of the million to be spent for new processing equipment and production facilities for making the new compound. Capacity of the new unit will be about 100,000 pounds a day. Barring building delays, it is expected the new unit will be put into operation around October.

P. & G. Again Largest Advertisers

Procter & Gamble Co., Cincinnati, for the fifth consecutive year was the largest advertiser in the United States. P. & G. spent nearly twenty million dollars in radio, farm and general magazine advertising in 1945, according to a survey conducted by *Advertising Age*. Other soap companies among the 12 largest advertisers were: Lever Bros. Co., Cambridge, in third place, with an expenditure of \$12,242,161; Colgate-Palmolive-Peet Co., Jersey City, was eighth, with \$6,933,716, and Bristol-Myers Co., New York, eleventh, spent \$5,451,242 last year.

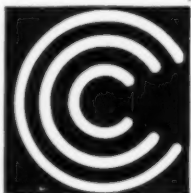


**Buyer making
"Peace Plans" for a
better steel container**

WHEN peace plans call for steel containers, keep the Continental Triple-C trademark in mind. The Triple-C means best in quality and service. Continental steel containers are rugged, economical . . . come in numerous sizes and types for scores of varying uses. Be sure to include Continental steel containers in *your* peace plans.

Tune in: "Continental Celebrity Club," every Saturday night over coast-to-coast CBS Network

**The Triple-C means
best in quality, service**



CONTINENTAL CAN COMPANY

**A COMPLETE
LINE OF STEEL
SHIPPING
CONTAINERS**

Soap Deliveries Down in 1945

Deliveries of other than liquid soaps in 1945 were 12.6 per cent less than in 1944, according to figures recently released by the Association of American Soap & Glycerine Producers. In 1945, 2,872,131,000 pounds of soap were delivered by 61 manufacturers, representing approximately 90 per cent of the entire U. S. production. Liquid soap deliveries in 1945 amounted to 4,272,000 gallons, as compared to 3,774,414 gallons in 1944. The reduction in deliveries of other than liquid soap in 1945 was a direct result of restrictions on the amount of fats and oils allowed by the government for soap making because of the world shortage of fats and oils. The aggregate sales value of deliveries reported for 1945 by the manufacturers participating in the census was \$405,134,000 a decline of nearly nine per cent from the previous year. Deliveries of soap other than liquid in the last quarter of 1945 amounted to 649,654,000 pounds, the smallest fourth quarter since 1941 and a decrease of 24 per cent from the fourth quarter of 1944.

Ungerer Names Representatives

Ungerer & Co., New York, recently announced the appointment of Edward A. Dohrmann of Philadelphia as their sales representative in that area. Mr. Dohrmann will make his headquarters in the Bourse Building, Philadelphia 6. Warren E. Kell, who preceded Mr. Dohrmann as Ungerer's Philadelphia representative, has been transferred to the company's Boston office, located at 900 Statler Building, Boston 16.

Sees Wetting Agent Price Drop

In a recently issued industrial bulletin, Arthur D. Little, Inc., Chicago, reports that the cost of synthetic cleansing agents, formerly too high for general use, has been so greatly reduced through new methods and large volume production that they are becoming an important competitor of soap. One such product has already been reduced to 13 cents a pound, says the bulletin, and further reductions are expected. The United States production rate in late 1943 was more than

90 million pounds a year, and now there are indications that expansions under way or planned will bring the annual productive capacity for synthetic organic detergents to over 350 million pounds, the bulletin states.

Wyandotte Paste in New Package

Wyandotte "97 Paste" cleaner for bathroom and washroom fixtures, floors and walls, is now available in full flush, lock-top steel drums and steel dispensers, according to a recent announcement of Wyandotte Chemicals Corp., Wyandotte, Mich. In addition, the product now comes in a pink color. Originally introduced in 1942, Wyandotte "97 Paste" is said to be useful for spot cleaning soiled painted furniture, for removing marks from floors of all kinds and for use as a mechanic's hand cleanser.

Marschalk McKelvy Sales Manager

H. Robert Marschalk recently was appointed sales manager of the Alfred D. McKelvy Co., New York, makers of "Seaforth" toiletries for men. Prior to the war he was assistant sales manager of Vick Chemical Co., St. Louis.

Barber in Hooker Sales Post

Hooker Electrochemical Co., Niagara Falls, N. Y., has recently assigned Neil M. Barber to its sales staff covering the territory comprising upper New York state and Northern Pennsylvania. His headquarters will be at Niagara Falls.

Introduce New Soap Cleaner

Industrial Chemical Products Co., Philadelphia, recently featured a new soap cleaner, called "Bain's Compound," which was recommended by the company for general cleaning problems. Among the claims advanced for the new product are that it emulsifies and breaks up waxes, fats, grease and dirt; it is soluble in hot or cold water; it contains no fillers, and it helps keep bacteria count down. Literature and prices are available on request.

Frank Heads Macy Drug Factory

Robert G. Frank, associate manager, has been appointed manager of the drug factory of R. H. Macy & Co., at the Long Island City, N. Y., Macy warehouse, succeeding Robert C. Younkheers, resigned. Macy's announced recently. Mr. Frank has been with the company since Sept., 1942, when he joined Macy's as general assistant in the drug factory. Later, he was appointed purchasing agent and a year ago was made associate manager. He is a graduate of Columbia University.

"Name" Foundation Elects Two

Gavin McBain, assistant treasurer, and George S. McMillan, secretary, both of Bristol-Myers Co., New York, were elected treasurer and a member of the board, respectively, of Brand Names Research Foundation, Inc., at the group's annual meeting, Feb. 5, at the Hotel Astor, New York.

A new window display for distribution to dealers of "Seaforth" toiletries for men was announced by Alfred D. McKelvy Co., New York recently. Designed of heavy stock, the display is a three-dimensional full color miniature reproduction of an old Scotch castle.



American Made
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Representatives—ST. LOUIS • PHILADELPHIA • LOS ANGELES • TORONTO

NEW TRADE MARKS

The following trade-marks were published in the March issues of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

Trade Mark Applications

PX—This in upper case, bold, decorative initials for men's hair shampoo. Filed May 12, 1945 by Frank Von, Los Angeles. Claims use since March 30, 1945.

KREMAZENE — This in large and small upper case letters for antiseptic, parasiticide and fungicide. Filed May 18, 1945 by Eben R. French, Tacoma, Wash. Claims use since May 1, 1935.

AIRMEN TOILETRIES—This in upper case, bold letters over the fanciful drawing of the head and shoulders of an airman for shampoo. Filed June 21, 1945 by Bergholt Laboratories, Minneapolis. Claims use since Feb. 1, 1942.

PEACE GARDEN TOILETRIES—This in upper case reverse letters above a garden scene showing a man and woman for shampoo. Filed June 21, 1945 by Bergholt Laboratories, Minneapolis. Claims use since July 12, 1937.

SILKAM—This in upper case, bold letters for shampoos. Filed Sept. 13, 1945 by Associated Products, Inc., Chicago. Claims use since Aug. 13, 1945.

"171"—This in extra bold figures for chemical preparations for the removal and prevention of erosion and incrustations. Filed Sept. 28, 1945 by Saverite Engineering Co., Los Angeles. Claims use since April, 1939.

PETROFLO—This in upper case, bold black letters for chemical preparation for the removal of sludge and carbon. Filed Sept. 28, 1945 by Saverite Engineering Co., Los Angeles. Claims use since 1940.

ZOBENOL—This in upper case, bold, black letters for antiseptic and detergent preparations. Filed Oct. 2, 1945 by Winthrop Products, Inc., New York. Claims use since Apr. 23, 1945.

DISENE—This in upper case, extra bold, black letters for insecticides. Filed Oct. 11, 1945 by Chemical Service Co., Baltimore. Claims use since Oct., 1937.

CRAFTICIDE—This in upper and lower case, extra bold, script letters for insecticides. Filed Oct., 1945 by Crafton Chemical Co., Richmond, Va. Claims use since June 15, 1944.

SUNSWEEP—This in upper case, extra bold, black letters for shampoo. Filed Oct. 25, 1945 by Associated Products, Inc., Chicago. Claims use since Sept. 19, 1945.

JF—This in upper case, extra bold, script letters for shampoo. Filed Oct. 31, 1945 by John Frederics, Inc., New York. Claims use since April 1, 1944.

ZACKINIZING—This in upper case, medium letters for fur cleaning preparation. Filed Aug. 4, 1945 by George Zackin, New York. Claims use since July 19, 1945.

MELINDA—This in upper case semi-script letters for toilet soap. Filed Aug. 8, 1945 by Helene Pessl, Inc., New York. Claims use since July 6, 1945.

WITCHERY—This in upper and lower case, bold, script letters for toilet soap. Filed Sept. 15, 1945 by Primrose House, Inc., New York. Claims use since Aug. 14, 1945.

ROYAL ERMINE—This in upper and lower case, old English letters for soap. Filed Oct. 4, 1945 by Helena Rubinstein, Inc., New York. Claims use since Aug. 10, 1945.

LILT—This in upper case, extra bold, black jumbo letters for soap. Filed Oct. 8, 1945 by Procter & Gamble Co., Cincinnati. Claims use since July 30, 1945.

—INDUSTROSOLV—This in upper case, bold, stencil letters for metal cleaning preparation. Filed Aug. 30,

1945 by Industrial Chemical Products Co., Detroit. Claims use since 1944.

—PHOSMUL—This in upper case, bold stencil letters for metal cleaner. Filed Aug. 30, 1945 by Industrial Chemical Products Co., Detroit. Claims use since 1944.

SPRINGODA — This in upper case, bold, stencil letters for liquid deodorant for general household use. Filed Sept. 20, 1945 by Selig Co., Atlanta. Claims use since April 29, 1944.

AEROSECT — This in upper case, extra bold, black letters for insecticides. Filed Oct. 2, 1945 by Pennsylvania Engineering Co., Philadelphia. Claims use since Sept. 11, 1945.

AVALANCH—This in upper and lower case, bold, gothic letters for insecticides. Filed Nov. 2, 1945 by Chemurgic Corp., Richmond, Va. Claims use since Sept. 6, 1945.

SCHRATZ TUBLETS — This in upper case letters for gelatin capsules containing a bath mixture of perfumed oils and a saponaceous detergent. Filed July 20, 1945 by Schratz Products, Detroit. Claims use since June 15, 1945.

AN ENGLISH GARDEN—This in upper case, extra bold, black letters for toilet soaps. Filed Aug. 7, 1945 by Charles of the Ritz, Inc., New York. Claims use since June 1, 1945.

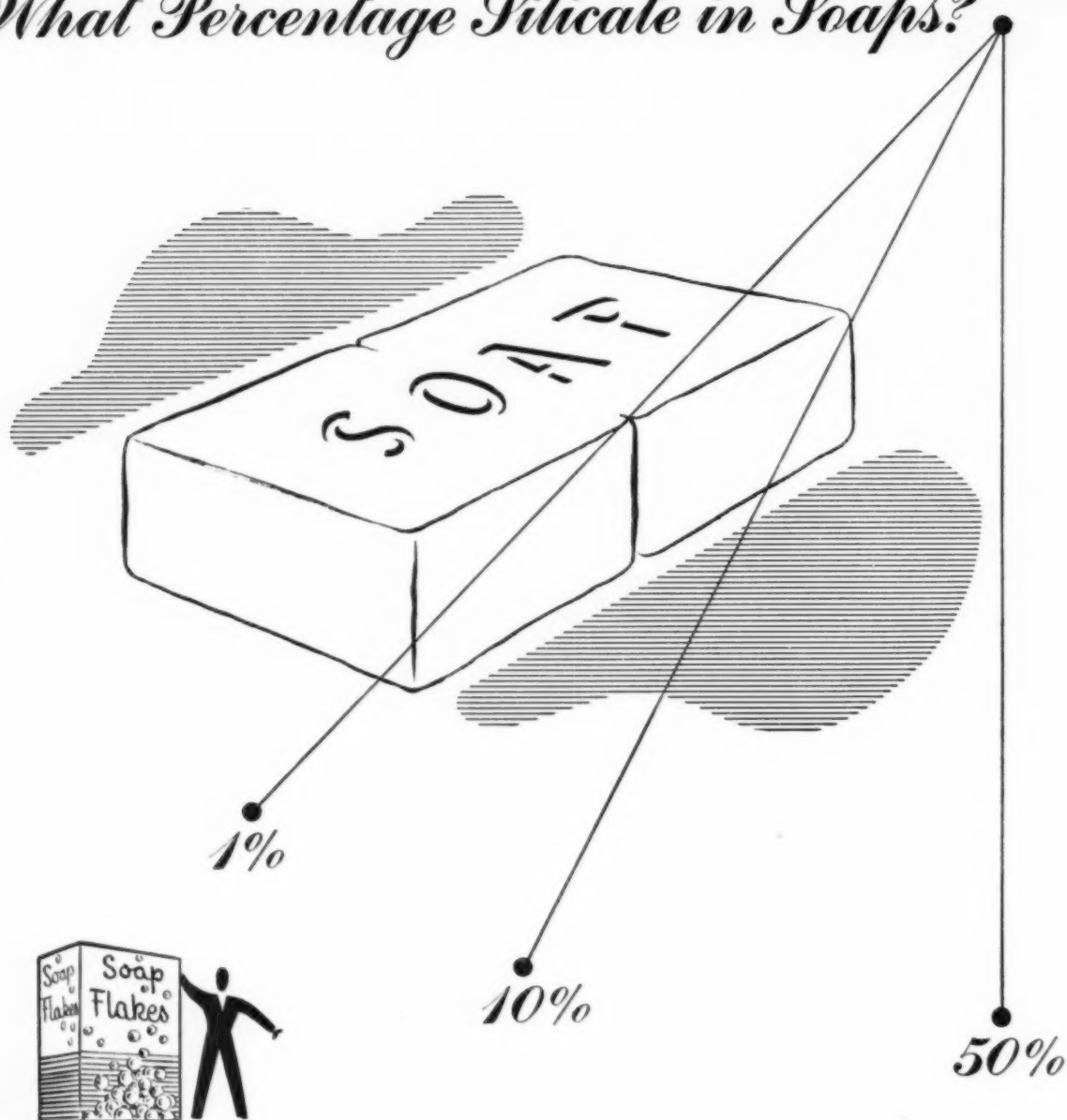
TALISMAN—This in upper case, extra bold, black letters for toilet soap. Filed Oct. 13, 1945 by Charles of the Ritz, Inc., New York. Claims use since Oct. 10, 1945.

WHITE TAR—This in upper case, extra bold, black letters for moth balls, coal tar insecticides, coal tar disinfectants, etc. Filed Aug. 10, 1945 by Koppers Co., Inc., Kearny, N. J. Claims use since Feb. 15, 1886.

HYCODIS—This in upper case, extra bold stencil letters for high phenol coefficient disinfectant and germicide. Filed Sept. 10, 1945 by The Selig Co., Atlanta, Ga. Claims use since July 3, 1941.

6-12—This is extra bold, black numbers for insect repellent. Filed Sept. 17, 1945 by Carbide and Carbon Chemicals Corp., New York. Claims use since July 20, 1945.

What Percentage Silicate in Soaps?



Only that amount of silicate that adds better cleaning qualities has been PQ's recommendation since its forbears first began to use silicate in their own soaps. Sometimes the percentage is a very low one, as for instance the 1% used in toilet soaps to prevent the development of rancid odors.

For honest-to-goodness cleaning action, some soaps effectively carry as much as 50%. What percentage for your formulas? That will depend on the type of soap, the character of the ingredients and

its intended application. Whatever oils you are using, there is a way to incorporate a PQ Silicate to produce quality soap—quality in appearance and performance. It may be an increase in the quantity of silicate incorporated, or on the other hand, the answer may lie in a different silicate from that which has been your regular brand.

May we discuss with you how you can use PQ Silicates to better advantage, and share with you the benefit of our experience.

PHILADELPHIA QUARTZ CO.
DEPT. B, 129 SOUTH THIRD STREET, PHILADELPHIA 6, PA.
PQ SILICATES OF SODA

VERDADENT—This in upper and lower case, extra bold, black letters for dentifrice. Filed Sept. 24, 1945 by Rystan Co., New York. Claims use since Aug. 24, 1945.

GAMTOX—This in upper case, extra bold letters for insecticides, fungicides and germicides. Filed Oct. 30, 1945 by California Spray-Chemical Corp., Richmond, Calif. Claims use since Sept. 4, 1945.

TIGRESS—This in upper and lower case bold letters for insecticides. Filed Oct. 31, 1945 by Organized Distributors, Inc., Oakland, Calif. Claims use since Oct. 9, 1945.

DETHRAZE—This in upper case, extra bold, black letters for insecticides. Filed Nov. 3, 1945 by Antiseptol Co., Chicago. Claims use since Aug. 5, 1945.

LEADWAY—This in upper case bold letters superimposed on an arrow for linoleum and floor wax. Filed Oct. 6, 1945 by Leadway Stores Corp., Chicagn. Claims uses ince April 15, 1940.

BIG LIFT—This in large and small, upper case, bold and extra bold, black jumbo letters for general household cleaners. Filed May 11, 1945 by Walter Tribble, Oakland, Calif. Claims uses nice Mar. 15, 1945.

DARLING BABY—This in upper and lower case, script letters for bath soap. Filed July 21, 1945 by New York Merchandise Co., New York. Claims use since Nov., 1944.

INSTA—This in upper case, bold, open letters for all-purpose cleaner. Filed Oct. 19, 1945 by Insta Chemical Products Co., Detroit. Claims use since May 1, 1944.

BEWARE—This in upper case, extra bold, black letters fnr shaving cream and facial and bath soaps. Filed Oct. 19, 1945 by Golden Arrow Toiletries, New York. Claims use since Feb. 1, 1944.

NEUTROTONE—This in upper case, extra bold, black letters for rug and carpet cleaning compound. Filed Oct. 22, 1945 by Mathieson Alkali Works, New York. Claims use since June 20, 1945.

SEA-KLEEN — This in upper and lower case, extra bold, black letters for powdered abrasive cleaner for boats, and the like. Filed July 31,



Attending the recent Innis, Speiden & Co., New York sales meeting were: Seated, left to right, T. G. Favelle, manager, gum and wax divisions, P. L. Frost, sales manager, D. S. Cushman, asst. sales manager, H. S. Cottrell, manager, chemical division; standing, left to right, front row, F. E. Strauch, J. O'Connell, W. J. Thorn, H. R. Wunker, R. D. Kane, L. W. Campbell, W. Wieners, J. E. Wickstead, H. T. Watterson, E. A. Smith, P. W. Hiller; second row, F. Grilli, H. F. and W. H. Sheffield, G. A. White, C. K. Squires, W. L. Baldwin and E. A. Schaaf.

1945 by Flinco, Inc., New York. Claims use since Nov., 1944.

CAVALCADE — This in upper case, bold, open letters for washing powder for automobiles. Filed June 16, 1945 by Cavalcade Products, New York. Claims use since January, 1945.

BEAU BRUMMELL—This in upper and lower case, extra bold, black letters for shampoos, liquid dentifrices, etc. Filed July 30, 1945 by Beau Brummell Ties, Inc., Cincinnati. Claims us since 1938.

PUR-O-PEL — This in upper cas, bold, letters for livestock sprays and insecticides. Filed by Puritan Laboratories, Inc., Des Moines. Claims use since May 15, 1945.

"ATOMIC"—This in upper case, extra bold, black letters for insecticides. Filed Sept. 20, 1945 by Worthington Products Co., Arlington, Va. Claims use since Aug. 1, 1945.

FLETCHERIZE TEETH-GUMS—This in upper case, reverse letters for dentifrice. Filed Sept. 25, 1945 by Fletcher Chemical Co., San Antonio, Tex. Claims use since Feb. 13, 1944.

P-C-H—This in upper case, extra bold, black letters for insecticides. Filed Oct. 20, 1945 by Chipman Chemical Co., Bound Brook, N. J. Claims use since Dec. 5, 1944.

CONTAX—This in upper case, extra bold, black letters for cleaning and detergent materials for dishes, clothing, etc. Filed Nov. 9, 1944 by Lystad & Redick, East Grand Forks, Minn., and Devils Lake, N. Dak. Claims uses ince Mar. 14, 1942.

GLASSEX—This in upper case, extra bold, black letters for cleaning and detergent material for general use. Filed Nov. 18, 1944 by Lystad & Redick, East Grand Forks, Minn., and Devils Lake, N. Dak. Claims use since Jan. 7, 1942.

BIG 8—This in upper case, bold letters within the upper loop of a jumbo sized numeral eight for liquid cleaner for general household use. Filed May 21, 1945 by Roseth Co., Minneapolis. Claims use since Aug. 9, 1939.

RAVO—This in upper case, extra bold, black letters fnr general purpose cleaner. Filed May 25, 1945 by Universal Chemical Products Co., Boston. Claims use since Jan. 5, 1945.

SCRAM—This in upper case, extra bold, black letters for surface cleaner in paste form. Filed June 30, 1945 by Acme Chemical Co., Milwaukee. Claims us since Apr. 29, 1939.

SCRAM—This in upper case, extra bold, black letters for surface cleaner in paste form. Filed June 30, 1945 by Acme Chemical Co., Milwaukee. Claims use since April 29, 1939.

LAUN-DR-SOL—This in upper case, extra bold, black letters for Synthetic soap. Filed Sept. 25, 1945 by Phipps Products, Inc., Boston. Claims use since Aug. 6, 1945.

STEROX—This in upper case, extra bold, stencil letters for synthetic solid detergents. Filed Oct. 20, 1945 by Monsanto Chemical Co., St. Louis. Claims uses ince Oct. 9, 1945.



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BIDS AND AWARDS

Panama Chip Soap Award

Standard Soap Co. of Camden, N. J., received the award with a bid of \$960 on an unspecified quantity of chip soap in a recent opening for miscellaneous supplies by the Panama Canal, Washington, D. C. Other bidders in the same opening were Armour & Co., Soap division, Chicago, \$930, and Wm. Messer Corp., Chicago, who entered alternate bids of \$1,368 and \$1,099.20.

Justice Dept. Bids

The following bids were received in a recent opening for miscellaneous supplies by the Department of Justice, Springfield, Mo.: item 1, 120 pounds of cleaning compound, Oakite Products Co., New York, 11.04 cents; Selig Co., Dallas, 12 cents; item 2, 1,000 pounds, water-wax emulsion type compound, N. Brittingham & Sons, Philadelphia, 6.03 cents; American Excelsior Corp., Minneapolis, 4 cents; item 3, 72 dozen paradichlorobenzene deodorant blocks, N. Brittingham & Sons, Philadelphia, \$2.40; Elkay Products Co., New York, 87 cents; Octagon Process, Brooklyn, \$3; Puritan Chemical Co., Atlanta, \$1.20; Selig Co., Dallas, \$1.40; Uncle Sam Chemical Co., New York, \$1; Factory & Yard Supply Co., New York, 78 cents; item 4, 12 insect powder dusters, Factory & Yard Supply Co., New York, 40 cents; item 7, 176 pounds of carnauba wax, N. Brittingham & Sons, Philadelphia, \$2.69; Selig Co., Dallas, alternate of 50 cents; Robinson Plumbing Supply Co., St. Paul, Minn., \$1.95; alternate bid of 85 cents; item 8, 20 pounds of granulated wax, Thompson-Hayward Chemical Co., Kansas City, Mo., 40 cents.

Penick Only Pyrethrum Bidder

S. B. Penick & Co., New York, entered the only bid on an unspecified quantity of pyrethrum concentrate in a recent opening for miscellaneous supplies by the Federal Works Agency, Public Buildings Administration, Office of Buildings Manager,

Washington, D. C. The Penick bid was \$710.

U.S.D.A. Purchases

The following special purchases of soap were announced recently in connection with openings for miscellaneous supplies by the U. S. Department of Agriculture, Production and Marketing Administration for Lend-Lease, UNNRA, etc.: 280,000 pounds of yellow laundry soap, Pioneer Soap Co., San Francisco, 6.48 cents a pound; 510,000 pounds of yellow laundry soap, Swift & Co., Chicago, 5.807 cents a pound; 4,500,000 pounds of yellow laundry soap, Colgate-Palmolive-Peet Co., Brooklyn, 6.3 cents, and 18,000 pounds of toilet soap, Allen B. Wrisley Co., Chicago, 17.2 cents a pound.

Navy Boiler Compound Bids

Among the bids on 220,633 pounds of boiler compound received in a recent opening for miscellaneous supplies by the Navy Department Bureau of Supplies and Accounts, Washington, D. C., were those of: Pacific Chemical Co., Los Angeles, 9.8 cents a pound; Turco Products Co., Los Angeles, 7.87 cents, fob Chicago, and 8.73 cents, fob Los Angeles; Alco Manufacturing Co., Brooklyn, 6.2 cents; Pittsburgh Chemical Laboratory, Pittsburgh, 5.64 cents; B. P. Ducas Co., Jersey City, N. J., 7.1 cents in plywood drums and 6.49 cents in fiber drums; Cadillac Chemical Co., Detroit, 7 cents; and Decar Chemical Products Co., Pittsburgh, 1.125 cents.

FWA Insect Sprayer Bids

In a recent opening for miscellaneous supplies by the Federal Works Agency, Public Buildings Administration, Office of Buildings Management, Washington, D. C., the following bids were placed on an unspecified quantity of insecticide sprayers: Capitol Chemical Co., Chicago, item 1a, \$200; West Disinfecting Co., Long Island City, N. Y., item 1a, \$228; Breuer

Electric Manufacturing Co., Chicago, item 1, \$280, item 1a, \$260; Dixie Janitor Supply Co., Washington, D. C., item 1a, \$272, and W. H. Bull Co., St. Louis, item 1a, \$351.62.

Carbon Tet. Bids; Award

The following bids were received on an unspecified quantity of carbon tetrachloride in a recent opening for miscellaneous supplies by the Panama Canal, Washington, D. C.: Alco Manufacturing Co., Irvington, N. J., \$680; Amaco Products Co., Cincinnati, \$698.26, accepted; Bartlett Chemicals, New Orleans, \$820.80; R. M. Hollingshead Corp., Camden, N. J., \$860; William J. Hough Co., Chicago, \$760; Keystone Industrial Co., Hoboken, N. J., \$780; Merchants Chemical Co., Philadelphia, \$750; Wm. Messer Corp., Philadelphia, \$920; Octagon Process, Brooklyn, \$790; Potomac Products Co., Charleston, W. Va., \$790; Rose Chemical Co., Painesville, O., \$759; S. Weinstein Supply Co., S. Charleston, W. Va., \$734.90; and Wisconsin Solvents & Chemicals Corp., Milwaukee, \$748.13.

Deupree Munitions Board Chairman

R. R. Deupree, president of Procter & Gamble Co., Cincinnati, recently was named general chairman of the Army and Navy Munitions Board by President Truman. Mr. Deupree, who was formerly with the War Production Board and chairman of the Business Advisory Council, was selected for the post by the two other members of the board. He was recently elected president of the Association of American Soap & Glycerine Producers.

Inorganics Appoints Fisher

Inorganics, Inc., Knoxville, Tenn., has just announced the appointment of Fisher Chemical Co., New York, as sole agent for the sale of its benzoyl peroxide in the United States.

Chi. Chemical Buys Plant

Chicago Chemical Co., manufacturers of water softeners, has purchased the plant it operated at 4001 W. 71st St., Chicago, under lease from the Defense Plant Corp.

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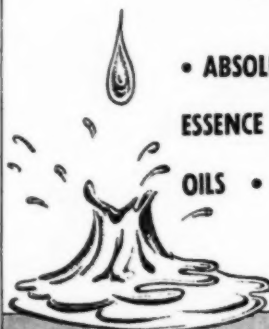
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As of April 8, 1946

COCONUT oil was reported available during the past month at ceiling prices of $8\frac{1}{8}$ cents a pound, crude basis, and $12\frac{5}{8}$ cents a pound, refined, deodorized basis, according to one trade source who said he had tried to find quota buyers who were in a position to take some of this oil. The coconut oil situation, according to this source, opened up about a month ago, and the oil has been "knocking" around waiting for a buyer. It was reported 20 carloads of coconut oil were available. How much longer this oil will be available is open to question since UNRRA is said to be buying up all it can get its hands on. Already, according to one source, the Department of Agriculture has confirmed the purchase of seven to eight thousand tons of coconut and babassu oils for

UNRRA. It is further pointed out that UNRRA is seeking to buy from eight to ten thousand tons of coconut oil for April delivery. Meanwhile, soapers who could use the oil are bound by quota restrictions which prevent them from purchasing any of this available coconut oil.

Since the first of the year, according to Copra Export Management Corp., the Philippine procurement agency of the Commodity Credit Corporation, monthly imports of copra from the Philippines had risen six thousand long tons for March. The outlook for April is that considerably larger shipments will be made than were made in March. Exports of copra from the Philippines to the United States in March totaled 13,332 long tons, as compared with 11,788 long

tons in February and 8,342 long tons in January.

Shipments of coconut oil from the Philippines are said to be held up by Philippine trade legislation, which is due for early action. If duties are imposed on coconut oil from the Philippines and copra is admitted free, crushing operations on the island might not be advantageous. No large plants destroyed during the Japanese invasion of the islands have been rebuilt. Before the war one-third of the world's supply of copra was produced in the Philippines, and exports of copra and coconut oil from the islands accounted for one-third of the tropical fats exported from the southwest Pacific and southeastern Asiatic areas.

Meanwhile, from Spain comes word of an agreement for olive oil trading between Spain and the United

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States. The agreement concluded with the olive oil syndicate calls for the exportation of 5,000 metric tons of raw olive oil in return for 1,500 tons of refined. The next trade will be on the basis of 1,500 tons raw basis for 1,500 of refined and 2,500 tons in an even trade. This is the first olive oil trading Spain has had with the United States since 1936 after which time all her olive oil refining had been done by Italy.

Following announcement of the agreement with Spain on the olive oil trading, olive oil traders in the United States urged Spain to institute a system of export licenses to allocate supplies to "historic shippers," prorated according to the individual exporter's pre-war shipping record. Sponsored by the Olive Oil Association of America, the request was made to cut through pricing regulations in Spain and the U. S., which are blamed for the critical shortage here. At the same time it was learned that some olive oil shipments from Syria and Palestine are understood to be on route to the New York for-

eign trade zone for re-export to Latin America, principally Brazil, Cuba, and Mexico. Because of the price spread, \$5 to \$7 per gallon in the countries of origin, compared with the U. S. ceiling of \$4.30, it would be impossible for shipments to be entered here, according to reports.

As a result of the world fats and oils shortage, an attempt to intensify the collection of used household cooking fats is being made by the American Fat Salvage Committee. Collections are currently averaging approximately 13,000,000 pounds a month.

It now appears that the Government will take action to cut rosin exports way below the figure urged by producers in an effort to avoid having to reimpose ration controls for domestic users. Originally the Government was thinking in terms of permitting about 400,000 drums for export, which is about 250,000 drums less than producers feel should be earmarked for export. The Government policy now seems to be to take care of domestic

needs first, and base exports on whatever stock of rosin remain.

Insecticide developments during the past month include the arrival of about 1,700 bales of pyrethrum flowers from Kenya, Africa, the first to be assigned to private importers since the beginning of the war, and the signing of an agreement with Peru for her entire surplus crop of rotenone. The new agreement is for one year's duration and was based on a 21-cent a pound price, as compared with a former 18-cent price. Additional quantities of Kenya pyrethrum are now reported on their way to the U. S.

The shortage of coal tar chemicals has affected among other things production of a number of aromatic chemicals, it was learned during the month. Recent essential oil arrivals from Madagascar include vetiver, ylang ylang and geranium. Another tight spot in this picture is Java citronella, which of course reduces the output of geraniol, citronellal, citronellol, geranyl acetate and hydroxycitronellal.

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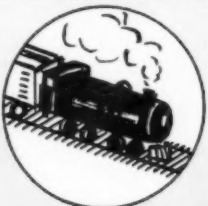
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CHLORINE, Cl_2 , readily enters into addition and substitution reactions with many types of organic compounds. With aromatic hydrocarbons chlorine is widely used for the chlorination of both side chains and nucleus of the compound by the use of the proper catalyst. Chlorine is also widely used in reactions with acetic acid, nitro compounds, sulfonic acids, esters and ethers. Hooker Liquid Chlorine made in the Hooker "S" cell conforms to the high standards of the industry.

HYDROGEN CHLORIDE, HCl , the anhydrous gas is used to form alkyl chlorides through reaction with alcohols, ethers and unsaturated hydrocarbons. It reacts with organic acid anhydrides to form acid chlorides. Hydrogen Chloride may combine with vinyl chloride, ethylene, and rubber to form many important compounds. Hooker Hydrogen Chloride is supplied in an aqueous solution as muriatic acid or it may be synthesized from hydrogen and chlorine under licensing arrangements with us.

SULFURYL CHLORIDE, SO_2Cl_2 , is commonly used to form organic acid chlorides. It may be used to produce chlor derivatives of phenols and in the presence of certain catalysts to produce chlor derivatives of hydrocarbons or the sulfonyl chlorides of hydrocarbons.

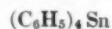
THIONYL CHLORIDE, SOCl_2 , available in a high degree of purity is a popular chlorinating agent because by-products of its reactions are sulfur dioxide and hydrogen chloride, gases readily removed by heating. It reacts with organic acids to form either acid chlorides or anhydrides depending upon ratio of acid to Thionyl Chloride.

SULFUR DICHLORIDE, SCl_2 , is used as a chlorinating agent and in these reactions may be considered the equivalent of chlorine dissolved in sulfur monochloride. It reacts with sodium salts of organic acids to produce acid anhydrides.

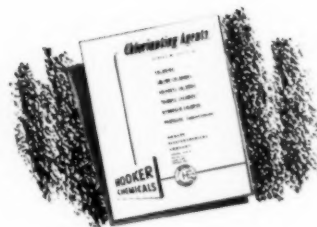
SULFUR MONOCHLORIDE, S_2Cl_2 , and SULFUR DICHLORIDE, SCl_2 , are used in metallurgy to chloridize sulfide ores. They react with unsaturated hydrocarbons introducing sulfur or chlorine, or both in the molecule. Unsaturated fatty acids are treated with these chlorides to produce cutting oil bases. They also find extensive use in the manufacture of dye intermediates, rubber substitutes, military gases, insecticides, and pharmaceuticals. Phenolic resins can be made through the use of these chlorides. The sulfur chlorides which have a ready source of chlorine are ideal chlorinating agents with the added advantages of low cost, ease of handling and storage.

PHOSGENE (Carbonyl Chloride), COCl_2 , is the acid chloride of carbonic acid. With alcohols it forms either chlorformates or carbonates. With amines it forms chloramides, substituted ureas or isocyanates. It enters into many Friedel-Crafts syntheses with aromatics to produce acid chlorides or aryl ketones. It may also act as an agent for direct chlorination. With metallic oxides and sulfides, it gives anhydrous chlorides. Reacting with organic acids it has been used to make acid chlorides and anhydrides.

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This new Hooker Chemical is an almost odorless, white to light tan, crystalline, free flowing powder with excellent thermal stability. Melting point is $228^\circ \pm 1.5^\circ\text{C}$ and Boiling point 424°C . Decomposition in glass at boiling point occurs very slowly. It is soluble in ethyl alcohol, insoluble in water. Among its suggested uses and applications are as an HCl scavenger for use with stabilizers in chlorinated compounds, as a preservative for mineral oils and as a reagent in chemical synthesis. Hooker Technical Data Sheet 733 containing additional physical and chemical data is available. Samples will also be furnished to those interested when requested on business letterhead.



BULLETIN No. 328A, a technical discussion on Hooker Chlorinating Agents, gives more information on these chlorinating agents and is available upon request. Our technical staff is also at your service in helping to solve problems involving the introduction of chlorine into organic chemicals or in the application of any of the many Hooker chemicals.

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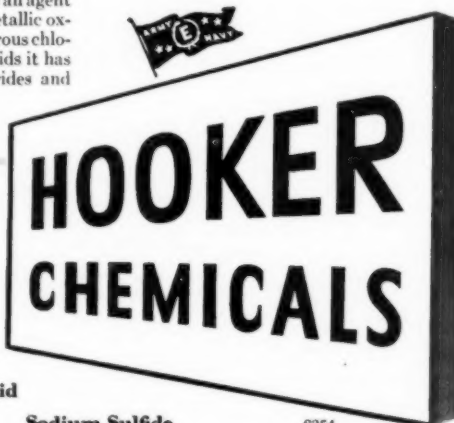
Muriatic Acid

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8354



Soap Versus Synthetics

IN A comparison of soaps with synthetics for the washing of rayon, Marseille soap made from olive oil, consisting largely of sodium oleate and containing about 63 per cent of fatty acids, was used. The extravagant claims sometimes made for the superiority of olive oil soap, as compared with other soaps, do not seem to be justified. Claims made in the literature for removal of dirt by synthetic detergents as compared with ordinary soap, are usually without support of any satisfactory proof. The best types can be used in considerably higher dilutions than soap, but this is necessary from an economic point of view because of their much greater cost.

There is unfortunately no convenient method for determining the concentration of soap or other detergent required to wash any given material clean. The direct method in which fabric is given a standard amount of soiling and in which after washing, the residual soil is determined by matching the final color against other standards soiled to a definite and lesser degree, is perhaps the best available. From it much useful information can be obtained as to the relative detergent powers of different types of soap, the optimum alkalinity of the washing medium and so on.

Other methods more attractive to the physical chemist have been suggested, such as determination of the drop number, of the lathering power, and so on, but the trouble with these is that the property measured does not necessarily bear any definite relationship to the degree of removal of dirt. Experimental results show that the best of the new detergents will remove

considerably more dirt than an equal amount of soap, but none can be made to support the claim that they are ten times as efficient; a ratio of 3:1 would seem to be nearer the mark.

The trouble with the alkyl sulfates, which are satisfactory detergents, is that they are made from some of the same fats as used in soap making. Even the most modern method of forming the alcohols from fats must be very much more costly than the saponification of fats with alkali, with the question of whether the yield of alcohol from fat approaches theoretical as closely as that of soap from fat in a well-run soap works. The present prices of the alcohols are very high as compared with chemically equivalent amount of soap, but the price may come down greatly, although hardly to a level comparable with soap prices.

Apparently the washing of rayon at a pH of 9.5 to 10.5 is not detrimental. However, the fact that the alkyl sulfates can be used in nearly neutral solution may be so advantageous in the washing of woollens that launderers might be prepared to pay the extra cost. As to the use of synthetics in hard water, water-softening is not as a rule particularly costly. Still for such use the advantage is probably slightly in favor of the newer detergents. P. H. Wigner. *Soap, Perfumery & Cosmetics* 19, 40-2 (1946).

Rosin Acids in Soapmaking

Rosin acids produce alkaline soaps in the form of fairly free-running liquids or jellies, according to their water content. They are always very soft. If it is desired to add to a resin acid the stoichiometric quantity of

alkali, the soap is heated so as to form a soft mass. An exception must be made in the case of laevo and dextro-pimaric acids, which give neutral crystallized sodium salts that may be obtained perfectly dry. These however, are laboratory products and soaps obtained directly from rosin are always gelatinous.

The soaps may be made by the action on the rosin acids of soda ash or caustic soda, at a temperature of about 80° C. (176° F), always using a slight excess of acid. Rosin soap may be incorporated in any proportion with fatty acid soaps, but in practice the proportion is always limited. Advantages are the softening effect on tallow soap, increase in solubility, promotion of lather, and resistance to hard water. Disadvantages are softness and stickiness. The reason for the latter is that free resin is formed and clings to the object being cleaned. Soaps made from even highly purified rosin acids are still sticky for this reason, that is, because of hydrolysis.

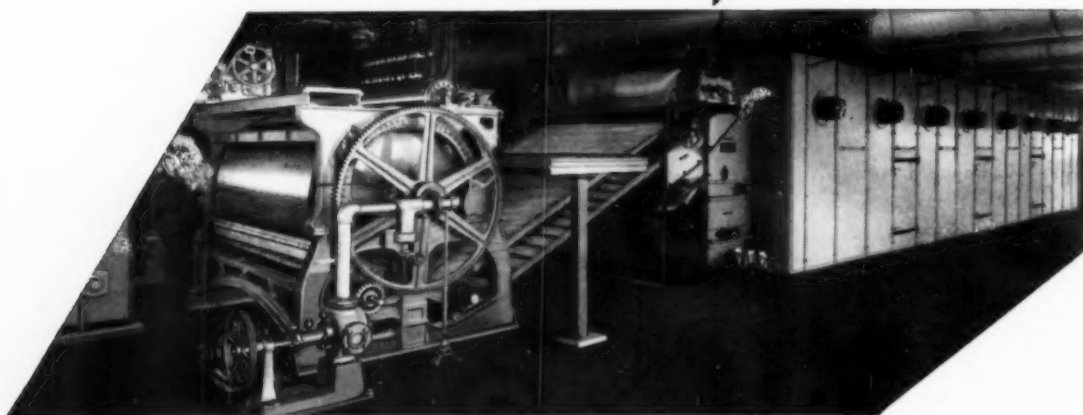
Soaps of French manufacture called 72 per cent soap contains 8 per cent of rosin, but this proportion may be increased without harm to the quality of the product. Circumstances have increased tolerance in formulation.

Rosin soaps may be made in the vat, but they are salted out far less readily than fatty acid soaps by the action of sodium chloride. Nevertheless, when mixed with fatty acid soaps, they are involved in the salting out of the latter. For the sake of uniformity in production, it is preferable to manufacture rosin soaps separately and then incorporate them with the rest of the batch.



Quality
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BUT IS SET
HERE



The quality of the soap you produce gets its test on the washcloth of each buyer. On the results of that test depend whether or not you've added another satisfied user to your list of customers. As you reflect on the simple truth of that, it is well to give some serious thought to just what affects the ultimate quality of the soap you produce. One phase of your production line that demands your careful attention is *drying*. Since the quality of the flakes produced by the dryer has a most important bearing on the ultimate quality of the finished soap, you can't be too careful in selecting drying equipment. Past performance has proven that you can rely on the Proctor Flake Soap System for dependably uniform results and consistently low costs. Every factor affecting flake thickness or drying can be accurately controlled. The system can be "tailor made" to suit individual plant output requirements. The combination of Proctor equipment and the right ingredients assures production of the kind of soap customers buy again and again. You'll find it well worth your while to learn the latest details about the Proctor system. Write today.

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At present a number of European washing powders consist of soda ash intimately mixed with sodium resinate, the mixture being called soap powder by housewives. The value of these products is undeniable, and even before the war certain well known washing powders contained rosin soap. This form of soap possesses remarkable emulsifying properties and permits formation of very stable emulsions, even with turpentine, carbon tetrachloride and a great number of oils. Research is being carried out to improve the rosin acids by modification so as to make them less sticky in use as detergents. *Ind. des Corps Gras; through Soap, Perfumery & Cosmetics* 19, 121-4 (1946).

Alkyl Ester Preparation

Refined glyceride oils are subjected to reaction with alcohol and an alcoholysis catalyst. Excess alcohol is removed by distillation and the alkyl esters and glycerine are separated by settling. Unrefined oils may be used if they are subjected to a preliminary alcohol extraction to remove free fatty acids. The alkyl esters may be purified by fractional distillation of liquid-liquid extraction. The purified esters may then be saponified for the production of soap. W. R. Trent, to Colgate-Palmolive-Peet Co. U. S. Patent No. 2,383,632.

Evaluation of Dispersions

A technique for the rapid evaluation of dispersions and dispersing agents depends on mixing dry powder with the solution of dispersing agent and measuring the amount of liquid required to produce two characteristic and reproducible consistencies, and observing the rheological phenomena of the mixture. The test has been used for aqueous systems but with minor modifications could be applied to others. The chief limitation of the method is that it tests dispersions at high concentrations and the results cannot always be applied to more dilute dispersions. Results are reproducible to 2-5 per cent. F. K. Daniel and P. Goldman. *Ind. Eng. Chem., Anal. Ed.* 18, 26-31 (1946).

Comparing Detergents

In order to compare the efficiency of different detergents a method has been developed based on others already published. Standard soiled strips of cotton are prepared as follows: Sheetting having a thread count of 90 x 94, previously desized and twice laundered, was soiled by passing it through a soil consisting of carbon black 4 grams, mineral oil 5 grams, cottonseed oil 3 grams, and carbon tetrachloride 4000 grams. The sheetting was cut in strips 4" wide by 3' long and passed through the soil solution twice. The cloths were hung horizontally to dry. Uniformly soiled samples of 30 per cent ± 2 per cent brightness relative to a magnesium oxide standard were obtained. The soiled samples were left to air dry for 15 hours before use.

For washing tests, the soiled samples were cut into strips 4" by 12", placed in pint mason jars with 250 cc. of detergent solution to be tested and 5 rubber balls. The jars, after temperature adjustment, are placed in the Launder-Ometer or similar machine and run at 80 r.p.m for 10 minutes. The samples are removed, rinsed in 5 distinct changes of water, expressed and dried at 50° C. for one hour. They are then pressed with a cool iron and the brightness reading made with the reflectometer, which has been previously standardized with a magnesia block or similar standard. The original sheetting gave a reading of 77.8 per cent compared to magnesium oxide.

The washed samples are placed in a modified photographic printing frame and at least 4 readings taken, with two on each side of the cloth. An average of only 0.5 per cent variation in brightness was obtained between the readings on any one sample. Dependable tests can be made with ease by unskilled personnel. Numerical indices can be assigned to the cleaning action of various detergents under study. Results with a cold scour showed it to be more efficient at 25° C. than the same concentration of industrial soap powder, in terms of per cent of original brightness regained.

The design of a low-cost reflectometer is described similar to the Hunter reflectometer but with a sta-

tionary photronic cell. Brightness readings are made on a micro-ammeter. J. L. Hurwitz. *Am. Dyestuff Reporter* 35, 83-4 (1946).

Oil Deodorization

Vegetable or animal fats or oils are deodorized by a continuous process. The oil is continuously deaerated with nitrogen or carbon dioxide in a vacuum vessel containing 1 or more bubble-cap trays, passed through a heat exchanger, and atomized with several times its volume of superheated steam. The atomized mist is heated by continuous passage through a furnace in which the oil is heated to a temperature below its initial volatilization temperature. The atomized spray then passes through a spray distributor at the top of a primary multiple bubble-cap distilling column, through which it falls in counterflow to superheated steam.

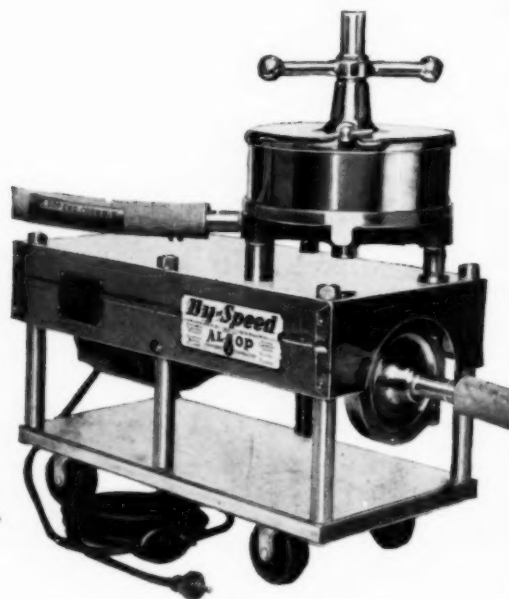
The volatile matters are removed by the steam and are prevented from refluxing and condensing back into the partially deodorized oil by suitable baffles and take-offs. The partially deodorized oil is again atomized with steam, reheated, and passed through a secondary bubble-cap tower similar to the primary, where the oil is again treated with superheated steam under a high vacuum. The process is continuous and at no time is there a mixing of untreated oil with oil which has been partially or completely deodorized. A. P. Lee and W. G. King, Jr. U. S. Patent No. 2,368,669.

Fat Hydrolysis

Splitting of saponifiable fats by countercurrent flow of preheated fat and water under high temperature and pressure is improved by a simple technique. The fat is pretreated by saturating it with water at the hydrolysis temperature prior to the reaction. Preheated water is introduced into the preheated fat and dissolved in 30-60 seconds. The production unit capacity is made greater, lower fat preheating temperature is allowed, and the completeness of hydrolysis and yield of glycerine are increased. R. C. Daniels, to Procter & Gamble Co. U. S. Patent No. 2,387,884.

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Been hearing a lot about
Alsop's New Filters
Understand they're now
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and everyone is
using 'em too
Charlie



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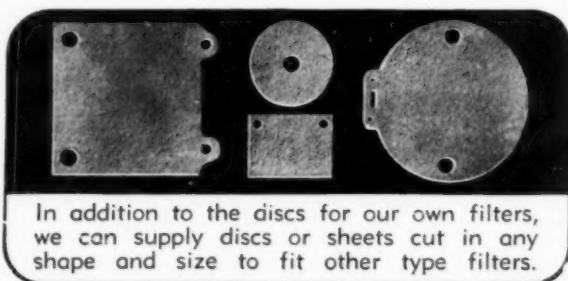
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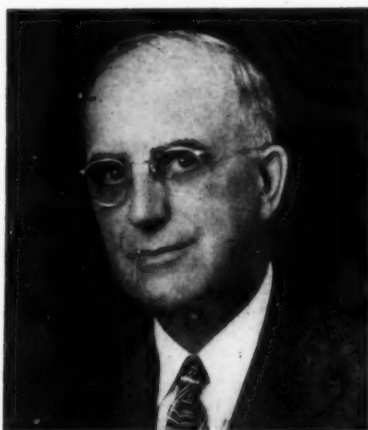
Clinic

By DR. E. G. THOMSEN, PH.D.

THE importance of manufacturing costs was recently impressed upon this writer quite forcibly when I was called upon to diagnose the reasons for fluctuating profits of a concern that had mushroomed during the war years and had outgrown its primitive cost accounting procedure. The products they handle are highly competitive even in these days when raw materials are hard to obtain. Their volume has grown ten times or more in the past two years. Superficially they had a method of calculating costs and estimating overhead. Yet one month they would show a good profit, the next a decided net loss was run up. To the owner of the business, who operated it at long distance, this condition was mystifying.

On visiting the plant and digging into details, certain interesting conditions were turned up, which might well exist in any business employing such inaccurate cost accounting technique. The costing system was based upon adding so much per pound to the product for labor and overhead. While some discrepancies were discovered, they were not large. These were, furthermore, constant, and did not account for the fluctuating profits and losses.

The next investigation had to do with yields. Here we found part of the difficulty. First the scales were checked and the volume measured. In some cases the scales were found to be off by as high as 3%. Dust and dirt had accumulated on the mechanisms and in most cases the improper weight was on the debit side. It had never



occurred to the operators that scales would vary in weight and some of them had not been checked since they were purchased. The state scaler had not been around in over a year, they said, and he only checked a few of the scales, particularly those used for weighing shipments. It was also found that errors had been made in estimating the cubical contents of bins and tanks from which certain more expensive ingredients were measured rather than weighed. The expansion and contraction of certain liquids due to temperature changes had been overlooked. These errors, though small, contributed to the errors in yields and composition.

Next we looked into moisture content, finding that the fluctuation here was as high as 2% due to humidity changes. This again caused discrepancies, so proper storage conditions and ventilation were advised.

The biggest source of error, however, was found in the stock records

and inventory. Presumably these were on a permanent basis. The company was separated into three departments, and each department head was responsible for the records in his own department. These records were kept on files in the office and were entered presumably once a week from scraps of paper thrown into a box by the workmen as they took raw materials and put finished goods into stock. Economy in saving the salary of a stock clerk and piling the work upon the production men was considered advisable by the general manager. The system used was a very poor one in that the records were inaccurate and easily subject to falsification. Upon taking check inventories, these were found to be off as much as 20% in extreme cases. Then too there were strong indications that finished goods and raw materials, which were easy to dispose of, were being shipped out, without any records.

When we totaled up the fluctuations due to measuring or weighing devices, moisture content, and inventory discrepancies and multiplied these by the monthly production volume, plus sales price, we were rather surprised at the figures. The net profits from the business were around 7%, yet this figure could be varied considerably through these errors to show profits or losses. In other words, the business was just fooling itself in preparing a monthly statement while these conditions existed. Correction of the defects quickly helped profit figures.

The example here described is not an unusual one. It is possible not only with a business of this type, but with any company producing a large volume at a small profit. Errors due to small fluctuations in weights, yields, inventories and pilferage often represent the difference between profits and losses. Many production men either do not pay sufficient attention to these bookkeeping details, or else try to dispose of them in a hasty manner. It is a much better policy to delegate such work to a competent clerk who will pay his wages many times over.

Hints From Our Advertisers

Carbide and Carbon Chemicals Corporation in a recent advertisement

Scents that Sell Soap...

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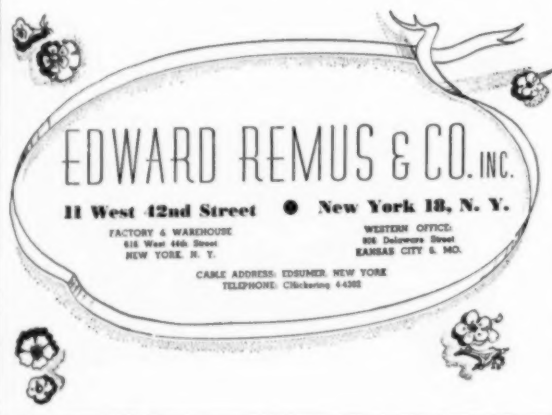
**OIL OF CITRONELLA
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We are also offering for prompt delivery other perfume oils — an exceptionally large choice — many different scents — different price ranges — to meet any and all requirements.

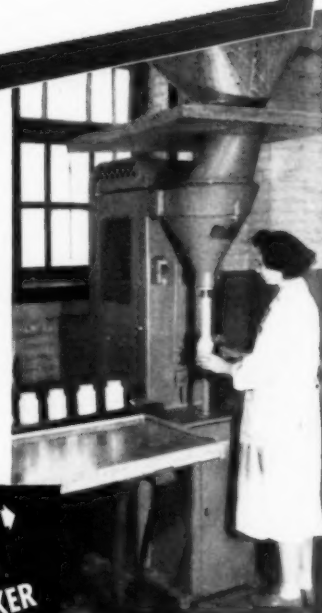
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telling about the use of "Morpholine," mention its use as a corrosion inhibitor. Ordinarily we think of its use in emulsions. As this chemical is soluble in water, in all proportions, however, it is also a good corrosion inhibitor for steam boilers and heating plants. Dilute water solutions evaporate with slight changes in composition and slow down corrosion in the boiler, in the piping and in the return lines. This is a good tip for those experiencing an often recurring difficulty in this respect.

Niagara Alkali Company make a forceful point when they observe that product improvement does not always depend upon raw materials or methods. They then correctly indicate that reliable raw materials are often the crux of such improvement. Dependable, pure caustic potash, as they well point out, results in better products in soap as well as in many other fields, not attained by the use of the impure chemical.

Industrial Chemical Sales call attention to the use of their "Nuchar" activated carbon in the purification of soaps and oils. Too often a product when first made appears to be stable. During its shelf life, however, imperfections, often due to small amounts of easily removable impurities, appear. Among these are sedimentation, poor color, bad odor, poor taste. Proper clarification and purification of the oils and fats used in soap-making for example, result in better and more stable soaps. The use of "Nuchar" adsorbs the impurities and removes them. Special types of "Nuchar" are available to fit the needs of various processing operations.

Armour and Company's Chemical Division in a recent advertisement tells some interesting facts about their "Neo-Fats." They stress that "Neo-Fats" are better quality fats, give faster saponification, greater yield and better economy. These fats, they state, are always pure and uniform and require no further refining. By their use soap kettles already installed can be used to double the output. Yields of finished soap are higher. Further information and samples are available.

An interesting announcement to those who use or produce fatty acids

is the announcement of the Emery Industries that "Neo-Kontakt Special" and "Liquid Kontakt" are available again. "Neo-Kontakt Special" is the purest form of Twitchell Reagent. It splits fats rapidly with a high retention of their original color and a low percentage of unsaponifiable matter. Up to 96% plus, of absolute decomposition is possible with low grade fats, in two boils of 34 hours total boiling time, with 2½% of saponifier according to an example of a typical cleavage cited by this company.

Aerosol Bomb Defects

The other day we had occasion to visit the laboratory of one of the state entomologists of a southern state. He was in the midst of testing aerosol bombs, purchased in various parts of his state, for testing purposes. These bombs had been in stock for several months, according to his records. His reactions were not at all favorable. The bombs in several cases had sticking valves and in one case the entire contents of a recently purchased bomb, costing about \$4.00, were discharged because it was not possible to close the valve. Then too, he offered the information that good sprayers gave better control of certain insects than an aerosol. It was quite evident from our conversation that his reports which may some day receive wide publicity will not be a boost for the sale of this type of insecticide application. Bomb manufacturers should investigate this defect, as it is evidently quite prevalent with certain types.

Vacuum Equipment

The F. J. Stokes Machine Co. of Philadelphia have sent us a copy of their circular on higher vacuum equipment. High vacuum has many new and interesting applications in various chemical fields. Stokes have devoted a great amount of attention to this type of equipment, particularly for drying purposes. As is well known, heat sensitive substances are generally processed under vacuum. The Stokes Microvac Pump produces and maintains pressures down to 5 microns. When used in conjunction with their rotary dryer, they include with the equipment a dust collector, a discharge

bin and a conveyor. The chambers for special drying purposes may be chilled to -40° F. or heated up to +160° F. Anyone interested in higher-vacuum processing systems should fully investigate Stokes equipment. Shelf and rotary type dryers are available.

Wyandotte Manual on Cleaning

Wyandotte Chemicals Corp., Wyandotte, Mich., is distributing an 80-page spiral-bound manual entitled "Simplified Cleaning For Hospitals, Schools, Hotels, Restaurants, Clubs, Institutions."

Atlas Publishes Book

A 60-page manual, "Drug and Cosmetic Emulsions" is available from Atlas Powder Company, Wilmington, Del. Complete with photographs and charts, the book, measuring 8½ x 11 inches, lists seven chapters. These deal with surface activity and surface active agents, emulsion formulation and manufacture, oil-in-water cosmetic formulation, medicated ointment formulation and specialties formulation. The final chapter lists Atlas products used in drug and cosmetic formulation. Due to the expensive makeup of the book Atlas prices it at \$1.00 per copy. However, the company states that it is "glad to send it to appropriate people in industry or other technical fields without charge."

Two New Laundering Guides

Two new home laundering booklets were issued recently by the Home Economics Institute of Westinghouse Electric Corp., Mansfield, O. One, "Home Laundering Guide for Clothes and Fabrics," sells for 15 cents. It is a 49-page booklet and is liberally illustrated. The other book, "Modern Home Laundering of Today's Washables" is a basic reference manual covering: washing, drying, ironing, laundry planning and buying of washables.

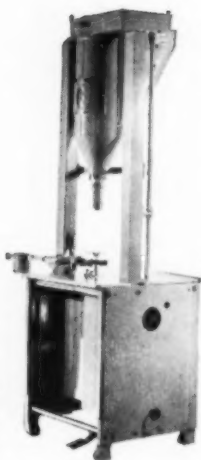
New Perfuming Materials Booklet

A new booklet, "Synthetics Bring New Era in Perfumes," was issued recently by E. I. du Pont de Nemours & Co., Wilmington.

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Wool Scouring with Phosphate

Extensive studies have been made on the use of sodium tetraphosphate, $\text{Na}_4\text{P}_4\text{O}_{13}$, as an aid in wool

Solubility Parts/100 parts water	% Solids in satd. solns.	pH at different concentrations conc. in % pH	
165 at 20°C.	62.3	0.01	9
107 at 60°C.	51.6	0.1	9
178 at 95°C.	64.0	1.0	8.5
		10.0	7.5

A successful method of introduction into the scouring process was to prepare a 20 per cent solution of the phosphate and run this by gravity feed into the soap tank with mixing. It is preferable to avoid boiling the phosphate solution as it is somewhat sensitive to heat. The addition of phosphate gave a marked reduction in the resi-

scouring. Its function in part, at least, is to redissolve or prevent precipitation of lime soap. The solubility and pH of this phosphate are as follows:

dual grease content of the scoured wool. This was shown by ether extraction to change from 0.5 per cent, with improvement in odor and appearance of the wool.

A recommended formula for the scouring process for mill practice using sodium tetraphosphate is as follows:

	Sodium tetraphosphate	Flake soap 22% titre 90% anhydrous	Commercial light soda ash	Start	pH Finish
Bowl 1	11.2 oz.	5.25 lb.	14 lb.	10.55	9.03
Bowl 2	8.0 oz.	2.75 lb.	5 lb.	10.41	9.58
Bowl 3	6.4 oz.	3.00 lb.	—	8.40	8.18
Bowl 4	—	—	—	7.12	6.80

The capacity of bowls 1 and 2 is 600 gallons each, of 3 and 4, 400 gallons each. The temperature in bowls 1, 2 and 3 was held at 120°F., in bowl 4, 115°F.

Wool scoured by this method was superior in whiteness, odor, and strength to that scoured by the usual

method without phosphate. Inclusion of 10 per cent phosphate calculated on the original soap charge is accompanied by a reduction in soap of about 25 per cent. Elimination of soap is neither desirable or possible. A. H. Razee. *Textile World* 95, No. 9, 155-7, 230-34; No. 10, 120-3, 215-24 (1945).

Corn Oil Fatty Acids

Analysis of corn oil showed the following composition in terms of fatty acids:

Acid	% by weight
Myristic	0.1
Palmitic	8.1
Stearic	2.5
Hexadecenoic	1.2
Oleic	30.1
Linoleic	56.3
Above C_{18}	1.7

Except for the high content of linoleic acid these results corresponded fairly closely to those obtained by two previous investigations. F. J. Baur Jr. and J. B. Brown. *J. Am. Chem. Soc.* 67, 1899-1900 (1945).

Sulfonated Oil

Split castor oil is treated in the presence of gaseous hydrogen chloride with a monohydric aliphatic alcohol containing not more than 5 carbon

atoms, and the esterified product is sulfonated. V. Wolf Ltd. and R. Rosenbusch. British Patent No. 562,321.

Oil Stabilizer

Fats and oils are stabilized by incorporation of 0.001-3 per cent of a partial carboxylic acid ester of gum guaiac. H. C. Black, to Industrial Patents Corp. Canadian Patent No. 431,986.

Surface-active Esters

Esters of polybasic aliphatic carboxylic acids of 6 or less carbon atoms with polyoxyalkylene glycols, preferably containing 7-17 alkylene groups, and compounds containing a hydroxyl group are surface-active agents. M. de Groote and B. Keiser, to Petrolite Corp. Ltd. U. S. Patent No. 2,386,446.

Cleaning Electrical Parts

Following emergencies when electric equipment has been exposed to chemical fumes or subjected to flood water, salt water, or water played on a fire, special cleaning is required. Some success has been achieved in surface cleaning by use of hot water pressure. Portable steam "jennies" heat flowing water and eject it in vapor form through a cleaning gun or nozzle under pressure. This method is applicable for removal of dirt, dust, mud or chemicals.

Attachments are available to feed neutral soaps into the vapor stream. The soap emulsifies grease and oils and makes them readily removable. The temperature of the soap solution should not be above 90°C. (190°F.) and the pressure at the windings not over 25 pounds per square inch. Neutral soaps have little effect on the baked varnish film and insulation. The operation should be completed by a rinse in clean warm water. D. L. Gibson. *Textile World* 95, No. 10, 116-7, 200 (1945).

Aryl Alkyl Sulfonates

Aryl alkyl sulfonates are made possessing detergent, dispersing, or bactericidal properties. The compounds are obtained by a catalytic reaction between an aryl compound and an olefine sulfonic acid or sulfonate. The reaction is carried out at a moderate temperature in a suitable solvent such as ethylene dichloride, chloroform, or trichloroethylene. The reactants ordinarily are taken in equimolecular quantities. As catalyst sulfuric acid, hydrofluoric acid, aluminum chloride, or stannic chloride may be used but boron fluoride is preferred. Alkyl benzenes or alkyl naphthalenes with 8-15 carbon atoms, and sodium propylene sulfonate are examples of the reactants. C. M. Suter, to The Procter & Gamble Co. U. S. Patent No. 2,366,133.

Antioxidant

An oil subject to oxidation on exposure to air is protected by a glycol phosphoric ester as antioxidant. S. Shappirio. Canadian Patent No. 432,619.

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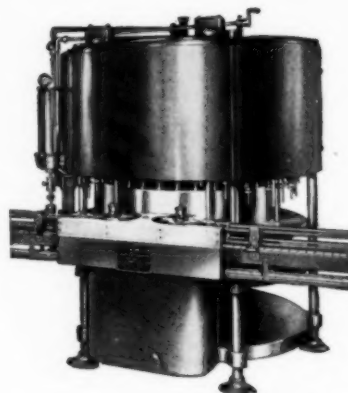
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PRODUCTS AND PROCESSES

Floating Detergent

A floating bar is compounded of synthetic washing agents and waxes or waxlike substances or solid paraffinic hydrocarbons. The content of the latter is 55-90 per cent by weight. J. Pfanner, to Cirine-Werke Bohme & Lorenz. German Patent No. 743,504.

After-Shave Lotion

A good after-shave lotion should have an alcohol content of about 25 per cent, both for the slight sting it gives and the cooling effect. About 1 part of menthol in 2000-5000 parts of lotion adds to the cooling effect, while the "bite" of the lotion may be increased by inclusion of 1/2 percent of aluminum lactate or sulfocarbonate. *Am. Perfumer* 47, No. 12, 41 (1945).

Phosphate Washing Compound

A washing compound comprises an alkali metal trimetaphosphate and an alkali, so that when the composition is dissolved in water, the trimetaphosphate is converted into tripolyphosphate. The alkali must be present in an amount sufficient to produce a pH of 8.5 after complete conversion of the trimetaphosphate radical to tripolyphosphate radical. G. B. Hatch, to Hall Laboratories. Canadian Patent No. 432,848.

Skin Cleanser

A skin cleansing agent contains synthetic anion-active washing agents and noncoloring, high-molecular compounds having a great affinity for the keratin molecule. R. Jager and F. Jager. German Patent No. 745,637.

Brittle Soap Tablets

Individual brittle soap tablets are made by adding 3 parts by volume of commercial neutral soap powder to water at 180-212°F., plus 1/9 volume of an aqueous solution containing 2 parts of Irish moss and 1 part of gelatin. The mixture is whipped until it becomes a mass of minute air cells,

stiff enough to retain the air without subsiding. It is then dried in small portions. E. A. Westerberg. Canadian Patent No. 432,509.

Urea Additive

A solid detergent for toilet purposes similar in general properties to those of soap, contains a neutral synthetic sulfated detergent of an anion-active nature with 12-14 carbon atoms in the nonpolar portion of the molecule. Intimately mixed with this is an equal weight of thiourea. L. F. Hoty, to Allied Chem. & Dye Corp. Canadian Patent No. 433,105.

Mild Skin Detergent

A mild nonirritating detergent composition for use on the skin contains a sulfated animal, fish or vegetable oil, fatty acids, fatty waxes, and an alkali metal soap of a saturated fatty acid containing at least 16 carbon atoms. The composition is substantially free of soaps of unsaturated fatty acids and of saturated fatty acids of less than 16 carbon atoms. J. Cunder, to National Oil Products Co. Canadian Patent No. 432,690.

Shaving Materials

Materials for use with soap to facilitate shaving are made by mixing a water-soluble exsiccated saline substance such as sodium sulfate or magnesium sulfate, with inert or emollient substances free from water. E. W. Willcocks. British Patent No. 559,867.

Paper as Glass Cleaner

A method for making a cleaner for glass and similar surfaces by impregnating paper with a glycerine-silicate combination, forms the basis of U. S. Patent No. 2,386,066. Kraft paper is treated with an aqueous solution containing 75-115 cc. of glycerine and 150 grams of silica per liter of water. Following this treatment the paper is dried to evaporate the water

and form a product carrying glycerine and silica in the approximate amount of 15-20 per cent by weight of the untreated paper.

Synthetic Detergent

Surface-active materials are prepared by condensing 1 molecular proportion of an aromatic hydrocarbon such as benzene, with 2 molecular proportions of primary alcohols having 12-14 carbon atoms such as lauryl and myristyl alcohols or the alcohols derived from coconut oil. The product is treated with a sulfonating agent to produce a dialkylated monosulfonated aromatic compound. National Oil Products Co. British Patent No. 559,265.

Self-Scouring Wool Lubricant

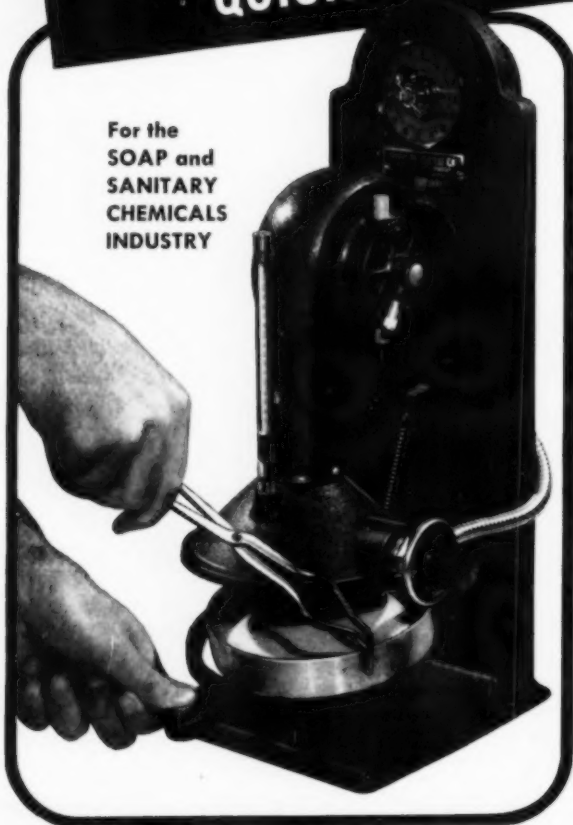
L. Sonneborn Sons, New York, are producing a new self-scouring wool fiber lubricant for which remarkable wetting and detergent properties are claimed. It is sold as "Fy-brol 1115." The product forms a stable solution rather than an emulsion, is soluble in hot water, oil, and petroleum solvents, and does not break when diluted with cold water. It is a sulfonated hydrocarbon said to be adaptable to all phases of wool processing. It may be used for soapless fulling by the addition of a small amount of soda ash. Ultimate removal is by a simple water rinse. It is unaffected by low concentrations of acid, alkali, and salt.

Use of Low-Grade Oils

An oil containing free fatty acids is treated at 20-150°C., with an alcohol and an acidic esterification catalyst until the free fatty acid content is reduced, after which an alkaline alcoholysis catalyst is added to convert the fat to alkyl esters of fatty acids with the liberation of glycerine. The oil or fat must be essentially anhydrous. The water formed during esterification may be removed by drying with sodium sulfate or by distillation of sufficient alcohol to reduce the water content. G. I. Keim, to Colgate-Palmolive-Peet Co. U. S. Patent No. 2,383,601.

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Complete copies of any patents or trade-mark registration reported below may be obtained by sending 25c for each copy desired to Lancaster, Allwine & Rommel. Any inquiries relating to Patent or Trade-Mark Law will also be freely answered by these attorneys.

No. 2,394,320, Organic Detergent Composition, patented February 5, 1946 by Russell Park McGhie, Brooklyn, N. Y., assignor to Colgate-Palmolive-Peet Co., Jersey City, N. J. As a new composition of matter, a non-soap detergent comprising a sulphonated organic compound having an inorganic sulphur-containing radical bound to an aliphatic carbon and having a pH in aqueous solution below 7.0, and an amount of water-soluble inorganic phosphate about 0.001 per cent to about 3 per cent by weight of said sulphonated organic compound, said composition providing a clear aqueous solution which is color-stable and substantially non-corrosive to iron-containing metals.

No. 2,394,321 Process of Preparing Sulphonated Organic Detergents, patented February 5, 1946 by Russell Park McGhie, Brooklyn, N. Y., assignor to Colgate-Palmolive-Peet Co., Jersey City, N. J. In the process of preparing detergent compositions in iron-containing equipment comprising sulphonating organic compounds and neutralizing the product of said sulphonation, the improvement which comprises carrying out said neutralization in the presence of phosphatic material from the group consisting of phosphoric acids and water-soluble salts thereof in an amount sufficient to inhibit corrosion of said equipment but insufficient to cause substantial phosphorylation of the organic compounds under the operating conditions.

No. 2,394,834, Detergent, patented February 12, 1946 by Harland H. Young and Kurt H. Spitzmueller, Chicago, assignors to Industrial Patents Corp., Chicago. As a composition of

matter, a chemical compound consisting of an acyclic aliphatic ether having a sulphonate radical connected with a terminal alkyl radical on one side of the ether linkage and a lipophillic radical selected from the group consisting of acyclic aliphatic acyl and acyclic aliphatic alkyl hydroxy radicals connected with a terminal alkyl radical on the opposite side of the ether linkage.

No. 2,394,851, Manufacture of Detergents, patented February 12, 1946 by Lawrence H. Flett, Hamburg, N. Y., assignor to Allied Chemical & Dye Corp., New York. In a method of producing sulfonated higher alkyl derivatives or aromatic hydrocarbons which comprises heating at a condensation temperature a reaction mixture containing an aromatic hydrocarbon having not more than two benzene nuclei, a Friedel and Crafts condensing agent, and a halogenated hydrocarbon mixture derived from a complex hydrocarbon mixture of mineral origin containing an average of 10 to 16 carbon atoms per molecule, said halogenated hydrocarbon mixture containing an amount of halogen corresponding to 75 per cent to 200 per cent of theoretical monohalogenation, and sulfonating the condensation product, the improvement which comprises heating the condensation reaction mixture at a temperature between 70° and 130° C. for at least one hour after the evolution of hydrogen halide has substantially ceased.

No. 2,394,916, Methods and Compositions for Killing Weeds, patented February 12, 1946 by Franklin D. Jones, Llanerch, Pa., assignor to American Chemical Paint Company, Ambler, Pa. A method for killing weeds in an active state of growth, which consists in applying to the weeds a substance selected from the group consisting of phenyl, naphthyl, tetralyl, and anthracene monocarboxylic aliphatic acids, their salts and esters, in a concentration of at least about .1 per cent by weight.

No. 2,395,025, Polishes and Method of Making Them, patented February 19, 1946 by Helen E. Waskell, Pittsburgh, Pa., assignor to Carbide and Carbon Chemicals Corp., New York. In the manufacture of a self-lustering, aqueous emulsion-type wax polish, the process of emulsifying the wax while maintaining a low viscosity of fluid during emulsification and avoiding the formation of an intermediate water-in-wax emulsion stage which includes forming a wax mixture containing a hard wax in a molten

state, a basic-reacting emulsifying agent and a relatively small amount of a highly surface-active wetting agent which is stable in the presence of the emulsifying agent and favors the dispersion of the wax in water directly upon the addition of water, while preventing the formation of a water-in-wax emulsion, said wetting agent being a sulfated aliphatic alcohol having at least 8 carbon atoms to the molecule and said wax mixture being formed prior to the addition of water to the wax in an amount sufficient for dispersion of the wax therein; and thereafter bringing said wax into admixture with an amount of water greater than the amount of wax therein for the first time from said wax mixture and in the presence of said wetting agent.

No. 2,395,283, Method of Treating Crude Kraft Soap, patented February 19, 1946 by Joseph John Lovas, Ridge-wood, and Paul F. Bruins, Douglaston, N. Y. The process of treating a dried crude kraft soap which comprises adding thereto substantially anhydrous aliphatic ketone of not more than 9 carbon atoms per molecule and thereby dissolving sterols, other unsaponifiables, and also the ketone soluble sodium resinates, and removing the undissolved sodium salts of fatty and rosin acids and oxidized rosins.

Fish Oil Fractionation

The methyl esters of menhaden oil were separated into three fractions by low temperature crystallization. The fractions were saturated esters 30.9 per cent, monoethylenic esters, 15.1, and polyethylenic esters 54 per cent. The saturated fraction was contaminated with about 5 per cent of the monoethylenic ester. The latter, in turn, contained small amounts of methyl myristate and polyethylenic esters.

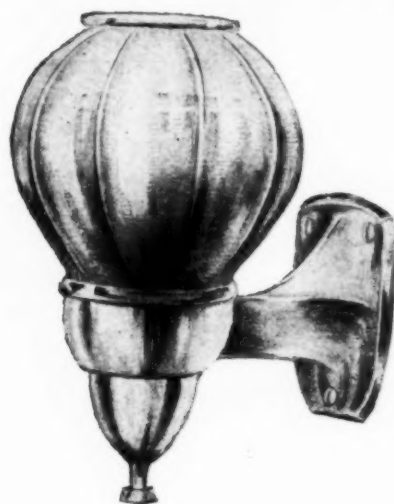
The saturated and monoethylenic ester fractions were separately distilled, and observations were made on the nature and amounts of the acids in the resulting fractions. Low-temperature crystallization was shown to be useful in the separation of the complex mixtures of esters found in fish oils. F. A. Smith and J. B. Brown. *Oil & Soap* 22, 321-5 (1945).

New Emulsifying Agents

Sulfonated polyvinyl alcohols are used as dispersing and emulsifying agents. W. Heuer and W. Starck, to I. G. Farbenind. A.-G. German Patent No. 745,683.

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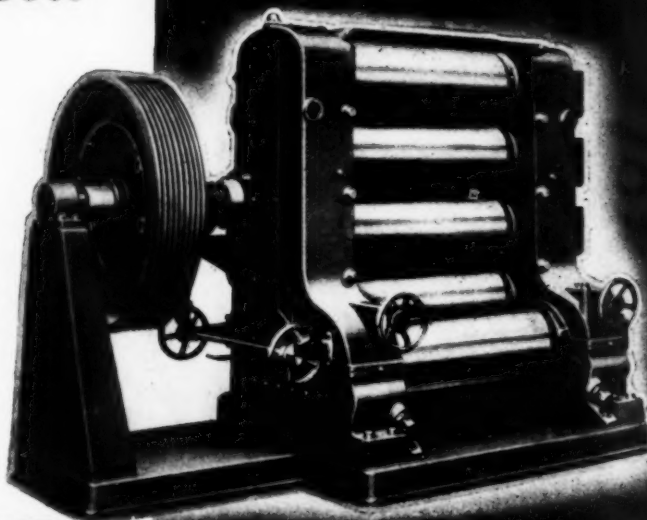
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Committee D-12 Elects Van Zile

COMMITTEE D-12 of the American Society for Testing Materials, whose work is concerned with the development of specifications, test methods and definitions for soaps and detergents, held its first meeting in two years at the Hotel New Yorker, New York, March 18 and 19. The group elected B. S. Van Zile of Hercules Powder Co., Wilmington, as chairman, succeeding the late Harry P. Trevithick, whose post had not been filled since his death a little over a year ago. F. W. Smither of the National Bureau of Standards continues as vice-chairman and J. C. Harris of Monsanto Chemical Co. is the new secretary, succeeding Mr. Van Zile. Mr. Smither presided at the March 18 and 19 meeting in the absence of Mr. Van Zile, who was unable to attend because of illness.

In addition to the officers named above, the following will serve on the Advisory Committee for the coming year: W. G. Morse, purchasing agent for Harvard University, Cambridge, Mass., J.B. Crowe, Procter & Gamble Co., S. Krassner, Brooklyn Navy Yard, N. L. Sheely, Armour & Co., C. C. Ziegler, Swift & Co., and W. H. Koch of Mathieson Alkali Works.

Of particular interest at the meeting was a discussion of the physical testing of soaps and a consideration of starting development of a standard method of determining detergency. J. A. Woodhead of Colgate-Palmolive-Peet Co., chairman of a new subcommittee on this subject, indicated that the group were not yet in complete agreement that an acceptable test method could be evolved, or that, committee D-12 was necessarily the logical group to conduct this work, but that the subject would be studied and reported on at next year's meeting.

There were but few changes in soap specifications to be acted upon, the major development being the change in status of the "emergency alternate specifications" which have been in effect during the war period because of the scarcity of many normal

raw materials. These specifications are now to be eliminated, but to be kept as tentative specifications as long as normal raw materials still remain unavailable.

The committee on definitions, headed by Dr. Charles A. Marlies of the College of the City of New York, reported the following revisions of previous definitions:

Under Soap Note (c) delete "physical"

In definitions for *Penetrating Agent*, *Surface Active Agent*, and *Wetting Agent* change "composition" to "material."

Change following definitions to:

Dry Cleaning—Cleaning fabrics in a substantially non-aqueous liquid medium.

Washing—Cleaning in a liquid medium.

Wet Cleaning—A term used in the dry cleaning industry to denote cleaning in an aqueous medium.

The following new definitions have been adopted:

Buffer Action—The resistance of a solution to change in pH.

Dispensing Agent—A material which increases the stability of a suspension or particles in a liquid medium.

Emulsifying Agent—A material which increases the stability of a dispersion of one liquid in another.

List A.O.C.S. Speakers

Speakers for the symposium on "Fats and Proteins in Human and Animal Nutrition" to be conducted at the 37th annual meeting of the American Oil Chemists' Society in New Orleans, May 15-17, include: H. S. Mitchell, chief chemist, Swift & Co., Chicago, chairman; H. J. Deuel, Jr., professor of biochemistry, University of Southern California, on "The Role of Fat in Human Nutrition;" Norris D. Embree, chemist, Distillation Products, Inc., Rochester, N. Y., on "Recent Advances in the Chemistry and Nutrition of the

Fat Soluble Vitamins;" Capt. George Gelman, executive secretary, committee on food research, Army Service Forces, Chicago Quartermaster Depot, on "Quartermaster Corps Committee on Food Research;" and H. C. Schaefer, manager, nutrition research laboratories, Ralston Purina Co., St. Louis, on "The Role of Proteins in Animal Nutrition."

Survey Vets on Drug Preferences

"Lifebuoy" is the most popular brand soap among veterans of World War II, according to the results of a recent nation-wide survey of drug products conducted by *American Legion Magazine*. The "regular" or lather type shave cream was almost three times as widely used as the brushless, according to the survey, which reported that "Palmolive" shaving cream held top place in brand preferences. Of the 46.27 per cent of the veterans who reported using a packaged shampoo, 44.41 per cent preferred "Fitch," which ranked far ahead of the second place shampoo. Among dentifrices, toothpaste was preferred by 57.56 per cent of those surveyed, while 38.33 per cent preferred tooth powder. "Colgate" tooth paste was voted first in its group, while, "Dr. Lyon's" held top place in tooth powder brand preference. Copies of the survey are available on request at *American Legion Magazine*, One Park Ave., New York.

W.H.C. Midwest Extraction Agents

Welch, Holme & Clark, Co., New York, announced late in March that they have been appointed the eastern agents for the sale of chlorophyll, carotene, phytol, xanthophyll and pheophytin produced by Midwest Extraction Co., Rockford, Ill. The eastern territory includes: New York City, New Jersey, Connecticut, western Massachusetts, Rhode Island, Pennsylvania and the rest of the eastern seaboard.

Seaboard Distributors Move

Seaboard Distributors, Inc., Newark, N. J., sales agents on soaps, chemicals and synthetic detergents, recently moved from 1180 Raymond Blvd. to 60 Park Place.

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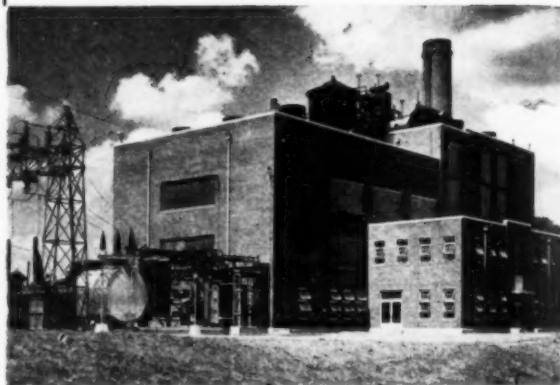
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PACKAGING LIQUID SOAPS

(From Page 46)

formulation, however, has its particular requirements. These requirements can best be satisfied only by close collaboration between the soap manufacturer and his can supplier.

Questions Answered by

Mr. Neuman

Q. Does sodium thiosulphate have any effect on the blackening of tin cans?

A. I do not know of any beneficial effect as far as reducing discoloration is concerned. I would think the presence of sodium thiosulphate would have beneficial effect in tending to inhibit corrosion in general.

Q. The last example you gave was of use of sodium meta silicate. Does that apply to tin container or enamelled tin?

A. I believe Mr. Peterson referred to the addition of that to a plain tin container.

Methods and apparatus are described for determination of the saponification number of fats and oils with samples of 500, 50 and 5 milligrams. K. Marcali and W. Rieman. *Ind. Eng. Chem., Anal. Ed.* 18, 144-5, (1946).

SHAMPOO FORMULATION

(From Page 49)

Sixth and last, certain liquid shampoo makers use chemicals to clarify their product. Their use does not result in as satisfactory a product as that made by proper filtration. Such products in addition to glycerin, alcohol and sugar syrup already referred to include potassium silicate, fresh alumina gel (aluminum hydroxide freshly made) and potassium tetrapyrophosphate. These are added in varying proportions usually from 1% to 5%. Even if used, however, filtering is very advisable.

Shampoos offer an enticing field in both the soap and cosmetic fields. The market is not as overcrowded as with some other items. For that reason it is apt to attract other suppliers with newer slants in future years.

Soaps are stabilized and kept neutral by addition of 2-3 per cent of alginic acid. E. Kolle. Norwegian Patent No. 63,892.

Bactericidal Agent in Soap

Some interesting observations on the use as a bactericidal agent in soap of a new material being marketed under the name "G-11" are contained in an article by Eugene F. Traub, M.D., Chester A. Newhall, M.D., and John R. Fuller, B.D., in the *Archives of Dermatology and Syphilology*, November-December, 1945 (pages 385-388). The conclusions of the authors are summarized as follows:

1. Two per cent dihydroxyhexachlorodiphenyl methane (G-11) incorporated in toilet soap enabled the subjects studied to maintain an exceedingly low bacterial population on the skin of the hands and forearms.

2. Compound G-11 was nonirritating to the skin as judged by more than four hundred patch tests. These were repeated on the same subjects after ten to fourteen days and were again found to be negative, showing that no sensitivity of the skin had been produced by the first tests. Subjects using 2 per cent G-11 soap regularly for one year have shown no evidence of irritation.

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3. Our hand washing experiments (121 individual series of washings) indicate that the most significant results were obtained by the regular daily routine use of 2 per cent G-11 soap. The evidence indicates that the exclusive use of toilet soap containing compound G-11 in a concentration of 2 per cent has such an effect on the bacterial flora of the human skin that the so-called resident bacteria are decidedly and permanently (as long as this soap is used) exclusively reduced in number. A person using this soap regularly each time his hands are washed has a lower resident count after two minutes of washing than one who washes for twenty minutes with ordinary toilet soap. The striking bactericidal effects obtained by daily use of toilet soap containing compound G-11 compared with regular use of ordinary or control soap and "Neko" soap, a commercial soap claimed to be germicidal, indicate its value.

4. These results lead us to conclude that the *daily and exclusive* use

of a soap containing compound G-11 would enable a surgeon or operating room attendant to maintain an extremely low resident bacterial population on his skin.

5. Experiments prove that 2 per cent G-11 soap does not form a film which would retain a large number of live bacteria beneath it.

6. The remarkably lowered resident flora following the routine use of 2 per cent G-11 soap has not resulted from bacteriostasis but from actual killing.

7. Two per cent G-11 soap when used exclusively is an efficient agent in reducing the number of both pathogenic and nonpathogenic organisms found on the human skin.

8. Exclusive use of soap containing compound G-11, according to our experiments, should reduce the probability of infection following abrasions and superficial wounds of the skin. This point might be of value in the hygienic care of members of the armed forces. Attendants of wounded in front line areas where lengthy sur-

gical scrub-up routines which include the use of alcohol and iodine may be out of the question could nevertheless feel that the resident bacterial populations on their hands were at an exceedingly low level.

9. The use of G-11 either in soap or in other vehicles for protection against cutaneous infections from barber shops and beauty parlors, hair follicle infections from cutting oils, etc., is suggested.

Monoglyceride Preparation

An oil is continuously heated with a large excess of glycerine or a glycol and an alcoholysis catalyst. The acidic catalyst is neutralized and the glyceride or glycol and monoglyceride or monoglycol ester are separated by vacuum distillation. Reaction temperatures of 150-250°C. are used in the alcoholysis with glycerine, while temperatures of 140-220°C. are used with glycols such as propylene glycol. C. J. Arrowsmith and J. Ross, to Colgate-Palmolive-Peet Co. U. S. Patent No. 2,383,581.

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DEBATE SOAP QUOTAS

(From Page 51)

"If quotas are to be retained we recommend that the base period be changed from 1940-1941 to 1944-1945 and include fat and oil used in government as well as civilian soap. Under WFO 42b, as now written, the small soap manufacturer is penalized for expanding his plant in order to make soap for the Army and Navy; the proposed change would correct this inequity entirely.

"The continuation of some controls may appear advisable to prevent over-stocking of soap on dealers' shelves and to insure an equitable distribution of raw materials among soap-makers. Total use of fat in soap was 2,105 million pounds in 1945 and 2,332 million pounds in 1944, an average of 2,219 million pounds. A quarterly quota of 83 per cent based on total use of fat for all soaps in 1944-1945 would provide for total use of 1,843 million pounds of fat in quota soap production at an even rate throughout 1946 and would prevent overstocking of retailers and inequitable distribution of raw materials.

"The 83 per cent quota suggested would maintain the distinction now made under WFO 42b between civilian quota and exempt soaps. Requirements for the Army, Navy, etc., are now much smaller than in the war years and would probably be met without the incentive offered to soap-makers in making them exempt from quota. If use of fat in all soap, civilian and government, were combined, and a quota retained merely to prevent the soap industry from taking more fat than it took in 1944 and 1945 relative to the other fat-consuming industries, then the suggested quota would be 95 per cent.

"Under none of the plans suggested have we included provision for continuing the separate quotas for package and bar and bulk package soaps. These classifications correspond roughly to household and industrial soaps. Industrial soaps have enjoyed more favorable quotas than household soaps, in order that the needs of our war plants and affiliated companies

might be met. Since industry is now converting back to a peace time basis, separate quotas for the two types of soap are no longer needed and, regardless of whatever other changes are made in WFO 42b, manufacturers should be relieved immediately of the burden of conforming to a dual quota system."

AT the second day session a plea for special quota consideration for makers of potash soaps was entered by Herbert Kranich, president of Kranich Soap Co., Brooklyn. He pointed out that under any such proposal for revision of WFO-42b as that suggested by Mr. Wilson, potash soap-makers would face a discriminatory cut in their present quotas. He emphasized that while the potash soap industry is large, numerically, the consumption of fats and oils by this segment of the soap industry is very small on a comparative basis, and that if quota controls were lifted completely on potash soap makers there would be but a very small additional quantity of fats and oils needed to allow them to operate on a full time basis.

Mr. Wilson indicated that there might very well be an inequity to potash soap-makers in the program which he had previously suggested, and indicated that it had been drawn up to apply specifically to the soda soap industry. Special consideration to the position of potash soap makers might well be necessary, he observed.

THE hearings continued over to the morning of April 5 with the views of the Department of Agriculture on the various suggestions for relaxation or complete abandonment of the quota controls being presented by Gordon Peyton, acting assistant administrator, Production and Marketing Administration, U. S. D. A., and T. J. Lydon, chief, Processed Oils Division, Fats and Oils Branch, U. S. D. A. Their estimates of the 1946 fat and oil supply outlook were at considerable variance with those of Mr. Wilson, which they indicated might be rather too optimistic. On the basis of the situation as they see it, the Department's prediction is for 15 per cent less fats available

for soap this year as compared with 1945, rather than 10 per cent more.

It was emphasized that import figures are as yet purely speculative. Of the anticipated 1946 arrivals of 250 million pounds of high lauric acid content oils, only about 30 million pounds came into the United States during the first quarter, and the latest estimate for the second quarter is that arrivals will not go beyond 40 or 45 million pounds. This will leave 180 million pounds to be brought in during the second half of the year if we are to reach the hoped for 250 million pound figure for the full year. Receipts of high lauric acid oils during 1945 totalled 90 million pounds.

Turning to a review of the stock position, Mr. Lydon revealed that on March 1, 1946, stocks of soap-making fats and oils were down to the extremely low level of 478 million pounds as compared with 494 million pounds on January 1, 1946 and with 988 million pounds on January 1, 1940. Whatever the anticipated arrivals are to be, Mr. Lydon pointed out that these purely speculative quantities of fats and oils cannot be released for soap production before they are actually on hand.

He referred to the possibility that new demands may be placed on American fat and oil stocks as a result of the commitments that may be made toward meeting world-wide food needs. He indicated also as an additional factor which would make it seem unwise to relax quota restrictions completely, the possible effect which such action might have on fat salvage collections.

Peruvian Rotenone Agreement

The United States has just negotiated a new one-year agreement with Peru for the purchase of the entire exportable surplus of Peruvian rotenone-bearing root. The price is to be 21c per lb., an advance from the former figure of 18c. Presumably OPA will shortly authorize an advance in consumer prices on finished rotenone insecticides in line with the increased raw material costs. The program for public purchase of rotenone has been abandoned, and imports will now be handled through private channels rather than through the Commodity Credit Corp.

SANITARY PRODUCTS

A SECTION OF SOAP

STATUS of the new proposed Federal Insecticide Law, recently reintroduced into the House of Representatives under a new number, remains somewhat uncertain. Since the hearings in February, none further have been held. But reports from Washington indicate that one significant change has been proposed in the bill,—to replace annual registration of all insecticides and other economic poisons with the Department of Agriculture by a single registration to remain in effect indefinitely or until some change in formula, label, or other feature requires re-registration.

Whether the new bill will pass at the present session of Congress is questionable. Postponement of the adoption of a new insecticide law for another year or two will mean that the state legislative situation will have that much more time to become further confused. A new federal law as a pattern would be one of the best stabilizing influences possible on state legislation, a strong aid to uniformity. We hope that differences will be ironed out to enable passage of the bill at the current session of Congress.

WITH the passing of Dr. William Dreyfus last month, the American sanitary products industry lost the dean of its scientific men. Since 1899, he had been chief chemist for the West Disinfecting Company, during which time he was the originator of a number of sanitary chemical products which are now in wide use. He was the first person to adopt present-day liquid potash soaps to dispensing systems, and was a pioneer in the development and standardization of coal-tar and other disinfectants. He was one of the founders of the National Association of Insecticide & Disinfectant Manufacturers.

To Dr. Dreyfus, the industry owes much for his pioneering back in the days before chemical sanitation products were what they are today. But even more important than his scientific accomplishments are the host of friends which he made during the years since coming to America from Switzerland as a young chemist. His lovable character marked his associations with all in the industry who knew him.

TO MANUFACTURE insecticides, disinfectants, cleaners, soaps and other sanitation specialties for use by state institutions,—this is the purpose of a bill introduced into the legislature of Mississippi. Within sixty days after passage of the bill, the Governor is called upon to designate some suitable state agency to manufacture for state use, not forgetting subdivisions thereof, a long list of sanitary chemical specialties. All state officials, also not forgetting officials of subdivisions thereof, must buy their sanitary supplies from the state manufacturing agency,—and nowhere else.

And that, my friends, is the basis of the plot of the opening act of this drama of the Deep South! If the bill passes, we will sit back with bated breath waiting for subsequent developments. But, while waiting we hazard a guess that before they are through, some Mississippi state officials are going to wish that they had never heard of jelly soap, cresol compound, pine oil disinfectant, dairy spray or a dozen or two allied items. We will also observe with interest how these same officials accomplish in a few months what it has taken an industry thirty odd years to develop. But the ways of politics are wondrous, albeit at times opaque. Next month somebody may introduce a bill for the state to manufacture pianos and window glass for its schools.

BOILER COMPOUNDS

BY

Milton A. Lasser

ESSENTIAL in many industries, boiler compounds have important roles in maintaining the efficiency of heating and hot water systems in public buildings and homes. They are designed not only to prevent the formation of boiler scale, but also to avoid other undesirable conditions. Products of this type are used in the so-called "internal" treatment of boiler waters. This internal method, though often used as an adjunct to the "external" boiler feed-water treatments, is particularly suited to the needs of the smaller industrial plant and to the requirements of public buildings and dwellings.

Permitting the formation of scale in a boiler is both expensive and hazardous. The presence of scale on the heating surfaces of steam boilers increases fuel consumption, maintenance costs and out-age of equipment. Thus it has been found that a scale only one-eighth inch in thickness will result in a 10 per cent fuel loss. Moreover, buckling and eventual burning out of the metal may result because the scale-covered surface absorbs more heat. (1) Such incrustations can result in burst boiler tubes, as well as even more serious damage. In addition one cannot overlook the fact that the elements which contribute to boiler scale are also associated with such harmful effects as corrosion or pitting, priming or foaming, and "caustic embrittlement," this last being a type of cracking or brittleness of boiler metal. (2)

Scale and kindred boiler ills are due to impurities present in boiler feed-water. Practically all natural waters contain some foreign material in varying degree. Surface waters, for example, though usually softer and freer of mineral matter than ground

waters, are prone to contain organic matter and insoluble suspended particles. Ground waters, usually free of suspended particles, often contain appreciable quantities of dissolved solids and hence show a higher hardness rating. (3)

Calcium, magnesium, silicon, iron, certain living organisms (e.g. algae) sulfates and carbonates present in water all enter into the boiler scale problem. On the physical side such factors as temperature and pressure play an important part in determining the character and extent of scale formation. It is generally conceded, however, that the kind and amount of minerals dissolved in the water are the most important considerations in scale formation. Many substances of this type have been found in water, (4) but only a few are of considerable importance as general causes of water hardness and, hence, of scale formation. Of these, the sulfates, chlorides and nitrates of calcium and magnesium undoubtedly hold first rank.

Hardness is objectionable in water supplies because it results in scale whenever the water is warmed or steam is generated. At a given temperature and pressure, a certain amount of water can hold in solution only so much of a given mineral or salt. When these limits are exceeded, precipitation occurs. This may take the form of an adherent scale or a sludge that may be removed from the boiler by suitable blowdown. However, because of sluggish water cir-

culution or other factors, some sludges may not be removed in the blowdown. When this occurs, the sludge may remain on the metal and bake to form an adherent scale.

As already indicated, the principal scale-forming substances are compounds of calcium and magnesium. Hence in the great majority of cases, scale prevention is a matter of "doing something" about calcium and magnesium salts. Since the amount of calcium is generally greatly in excess of magnesium, controlling calcium compounds and their precipitations as scale is often the crux of the problem. This is emphasized by Barkley, (2) who points out that for many cases scale can be considered as made up of three main parts—namely, calcium sulfate, calcium carbonate, and silicates of calcium and magnesium. Scales consisting chiefly of calcium sulfate or of the silicates are very hard, while those made of calcium sulfate and calcium carbonate with very little silicates are softer. A scale composed largely of calcium carbonate may appear only as a thin porous, soft deposit that does not build up in thickness.

Hardness is often expressed in degrees or grains per gallon, or parts per million, calculated as calcium carbonate. Determination of the degree of hardness of water, as well as of other factors, is important for the efficient and economical use of boiler scale compounds. Since these factors vary considerably from area to area, and sometimes within a given area, the amount and kind of boiler com-

pound to be used is also subject to considerable variation. Without proper control, boiler scale prevention often resolves itself to a hit-or-miss proposition. This point is clearly indicated in Hayman's (5) recent discussion on the prevention of boiler scale. Thus, for waters of low hardness, phosphate or phosphate-organic treatment is suggested, while for waters with hardness in excess of 60 to 70 parts per million and with high alkalinity, the combination of soda ash with either tannin or sodium mannuronate or both gives best results.

It is not the purpose here to give details on the hardness and other tests required. Full information is available in such texts as "Standard Methods of Water Analysis," published by the American Public Health Association or Barkley's (2) comprehensive but inexpensive handbook. Simplified methods and specialized, easily used test kits are available from many supply houses.

THE METHODS used to prevent boiler scale formation include conditioning of the water by settling or sedimentation, filtration, and the use of chemicals that cause reactions in the water before or after entering the boiler. The first two seldom constitute a major problem in large urban areas where the water is conditioned prior to entering the city's water mains, but they remain an important consideration with many industrial plants situated in more isolated districts. The factor of hardness, necessitating the use of chemicals, generally remains an individual problem in most sections of the country.

Internal treatment is the feeding of chemicals into the boiler with the water so that the reactions take place within the boiler. Internal treatment alone, through the use of boiler compounds, is frequently employed in small plants where operating conditions are not too severe or where the equipment required for external conditioning is too costly or not feasible. Even with larger installations, the use of boiler compounds is often an essential complement to the external softening process. (3,6)

With internal treatment for the prevention of scale, the aim is to convert and precipitate the incrusting substances and, where necessary, to treat this precipitate by means of suitable colloids and other agents so that none of it will form an incrustation upon the heated surfaces. Getting down to fundamentals, it may be said that through the use of suitable chemicals, calcium and magnesium can be made to form compounds, like carbonates and phosphates, which produce a sludge in the boiler instead of a scale and hence can be blown out with the blowdown. This, in brief, is the basic scheme for preventing boiler scale formation from which most of the modifications and specializations have evolved.

It is obvious that the chemical substances used, and the means for adding them to the boiler feed-water, must be of such a nature that they will require a minimum of attention in their application and control, yet yield satisfactory results. According to one authority (2) the simplest procedure is to put the chemicals into the feed-water heater or at the suction side of the boiler feed pump where little pressure is required. When solutions are used, a measured quantity is allowed to run into the water at intervals. Boiler compounds are also supplied in other forms such as the block or slug types, dry powders, or as semi-liquid or jel products. Each of these types has its own advocates and its own merits. (7)

The clouds of mystery and sheer hocus-pocus that formerly surrounded boiler compounds have largely disappeared with growing accurate information as to what actually goes on inside the boiler. Today, standards of performance have been established, and specifications are available. Many new boiler compounds or improvements on old ones have been developed, which perhaps helps to explain why so many different chemicals find use in making these products. Among the more important substances used, there may be mentioned such raw materials as sodium carbonate (soda ash), various phosphates, sodium silicate, sodium aluminate, sodium chromate and

such colloidal organic matter as tannins, starch and glycerine. These are used singly but very often are employed in various combinations. (8) In Europe the most generally used products are said (9) to consist of one or more of the following materials: trisodium phosphate, sodium carbonate, sodium hydroxide, sodium chromate, oak extract, starch and linseed. Synthetic substances, such as the loose chemical compounds available as metallic glucosates, also find frequent use in preventing or treating scale.

FOR THE sake of convenience, the internal treatment of boiler feedwaters can be divided into three groups: (a) Inorganic chemical methods, (b) Organic colloidal methods, and, (c) Combined inorganic-organic methods. In the first group is included those substances, chiefly alkalis, which react chemically with the scale-forming salts present in the water in order to produce new salt combinations which will not form scale or otherwise prove less objectionable than the original salts. (10)

Sodium carbonate is a common inorganic chemical employed in boiler treatments. Used in the presence of calcium sulfate, for example, this alkali reacts to form a calcium carbonate sludge rather than the adherent scale that would form if the original salt were left untreated. However, when the carbonate method is used, there still will be formed a thin, soft, eggshell-like scale of calcium carbonate. This scale will not build up in thickness, is easily removed and may offer some protection to the metal. A disadvantage in its use is the tendency to break down at higher pressures. Hence for higher steam pressures, it may be found impractical to maintain the requisite carbonate ion level.

For a number of years, phosphates have been growing in popularity as boiler compound materials. Not only do phosphates stand up under all boiler pressures, but they form a sludge that is easier to get into the blowdown. Trisodium phosphate, disodium phosphate and monosodium

phosphate all have well recognized roles in internal boiler treatments. According to Barkley, (2) it is always desirable to maintain an excess alkalinity when these salts are used; soda ash or caustic soda being employed for this purpose. During recent years a number of more complex polyphosphates have been introduced to the field of water treatments. Several reports attest their efficiency in correcting scale troubles. (7,11,12)

In addition to use as an alkalinizing agent with phosphates, sodium hydroxide or caustic soda is useful where water has an unusually high magnesium content. Levitt (7), however, feels that caustic soda should seldom be used for internal treatment because an excess may cause embrittlement.

Sodium silicate in the form of special solutions has been marketed as a boiler compound. Silicate can unite with magnesium to form a sludge, but in some cases calcium might combine with this added silicate to form a very hard scale.

Sodium aluminate is another chemical rather commonly used in internal treatments, generally in combination with soda ash or the phosphates. Showing good coagulating action, it produces a floc with undissolved particles in boiler water. It adds alkalinity to the boiler water and combines with dissolved silica to prevent silica scale. Under certain special conditions, however, hard aluminate scales have been formed.

As is already evident, it is often quite advantageous to combine two or more inorganic chemicals to obtain a more efficient scale preventive action. Merely by way of illustration there may be cited a patented compound (13) designed for treating water in boilers. Consisting of sodium hydroxide and trisodium phosphate, the dry compound is preserved in a dry stable condition until required for use in boiler treatment.

ORGANIC colloidal compounds comprising the second group of scale preventives are the modern successors to the many varied, often

messy materials used a century ago. It was early discovered that organic substances were effective in obtaining sludges of the requisite characteristics. One of the earliest methods was to put potato peelings in the boiler to prevent scale. Other similar products were also rather widely used. Strangely enough many of these materials were quite effective. More elegant materials are used today but the basic colloidal effects of adsorption and coagulation still remain the factors responsible for their action and for their continued extensive use. (10)

Varied materials are employed for their colloidal action. Tannin and tannin extracts are extensively used; the chief sources being chestnut, quebracho, cutch and other plant tissues, especially the bark. Starch, used to make scale flaky and less adherent, has replaced the potatoes and potato peelings of former years. Agar, though rather expensive, is also marketed for use in boiler treatments. Alginates, which produce a liquid sludge and provide other beneficial effects within the boiler, are finding increasing use. With these and other materials available, the search continues for new and better substances. A recent European report, (14) for example, describes how an efficient boiler scale inhibitor and remover can be obtained from peat.

Some of the most widely used boiler compounds consist solely of organic colloidal materials. One typical commercial product of this kind is composed of sodium alginate and quebracho tannin. The patent literature also offers examples of similar, wholly organic materials. One such, cited in Bennett's (15) text, consists of:

	Parts
Powdered gallnuts	5
Powdered pine bark	2
Powdered larch bark	2
Rosin	1

Another patented compound, claimed (16) to be effective as an incrustation and rust preventer and remover for use with boiler water, is rather reminiscent of the older compositions. This is prepared from fer-

mented Agave juice, dry field corn, lactic acid and water.

THE THIRD or combined organic-inorganic group contains the most frequently used and most often specified types of boiler compounds. This is quite understandable in view of the fact that by such means it is possible to obtain the benefits of both chemical and colloidal action. As indicated by Matthews, (6) a properly compounded boiler mixture will contain inorganic reagents such as alkalis or phosphates, whose role is to reduce the hardness of the water and thus throw scale-forming materials out of solution, and colloidal material such as tannin which prevents adherence of scale-forming deposits to the heating surface and also takes care of any excess hardness that the inorganic materials cannot counter.

Examples of boiler compounds illustrating the application of this principle are readily available, not only from technical and patent sources but also in various government and municipal specifications. Indicative of this last group is the boiler compound covered by the Navy Department Specification 13C3i, as amended December 1, 1944. This is required to contain a minimum, in percentages, of the following ingredients:

	Per cent
Anhydrous sodium carbonate	35.7
Anhydrous disodium phosphate	45.0
Cornstarch	11.4

Differing somewhat is the boiler compound purchased by the City of New York and covered by Specification 5-C-1:

	Per cent
Anhydrous sodium carbonate	76
Trisodium phosphate	10
Starch	1

With this is included sufficient cutch or dry extract of hemlock, oak or chestnut bark to yield 2 per cent of tannic acid. The remainder of the compound is to consist of water and only such impurities as are common to the ingredients.

In connection with this last point, an observation made in the Government manual (2) is worth noting.

Here it is observed that the ordinary chemicals used to treat boiler feed water are not chemically pure. To use such a high grade of materials, it is remarked, would be unnecessarily expensive, since a small amount of harmless impurities can be tolerated.

Another standardized boiler compound, covered by U. S. Department of Commerce Lighthouse Service Specification No. 542, is rather similar to the above and is made up within the following proportions:

	Per cent
Calcined sodium carbonate	68-70
Trisodium phosphate	19-22
Dextrine or starch	1-2
Tannic acid (derived from mangrove bark, catechu or catechu) not less than	4

Following the trend set down by specification boiler compounds is a product described in Bennett's (15) text as follows:

	Parts
Soda ash	87
Trisodium phosphate	10
Starch	1
Tannic acid	2

Using powdered materials, mix well and then pass through a fine sieve.

Containing more ingredients and providing a liquid preparation is the following boiler compound given in the same source:

	Parts
Sodium alginate (crude)	20
Quebracho extract	12
Soda ash	10
Trisodium phosphate	10
Caustic soda	1
Water	300

Dissolve the salts in the water and add the alginate and quebracho extract at room temperature.

Quite a number of patents describe the formulation of compounds for preventing scale. Some of them are quite complex, (17) but in most instances their simplicity is rather surprising. Thus, to inhibit scale formation, corrosion, foaming and other undesired effects, one process (18) requires that starch be maintained in the water at suitable proportions. The following treating compound, included in the patent, also may be used:

	Per cent
Trisodium phosphate	75
Sodium carbonate	20
Starch	5

Differing in some respects from the usual run of boiler compounds is a patented (19) composition for softening boiler water and removing boiler scale. Here use is made of mixtures based on sodium carbonate, a tannin-bearing material such as gambier, sodium hydroxide, ortho-dichlorobenzene, carbon tetrachloride or the like.

On occasion finely divided metal is used in boiler compounds. In one interesting method for treating boiler feed-water for removing and preventing boiler scale, special equipment is used to add iron or nickel of colloidal fineness dispersed in water. (20) Another patented (21) process specifies the use of colloidal metallic iron for preventing boiler scale. A Canadian method employs a mixture of pulverized iron, powdered carbon and starch. (22)

FROM the foregoing, it is evident that some boiler compounds are capable, not only of preventing boiler scale, but of removing the incrustations as well. That complex products are not necessarily the most effective in this respect is evident in Oswald's (23) report that disodium phosphate prevented scale formation in the boilers and removed old scale. The employment of certain compounds also contributes a means for forming a protective film on the boiler metal. Oak extract, for example, is said (9) to act by the formation of a protective iron tannate film which covers the inner surface of the boiler. A number of commercial products claim to provide this triple removing, preventive and protective action.

A number of methods and materials are available for the specific purpose of removing boiler scale, but most of them require skill and care in their use. Various inorganic and organic acids are used for this purpose, (24,25,26) the kind and strength depending upon the type of metal carrying the scale and the composition of the incrustation itself. (27) From all indications, hydrochloric acid appears to be most widely used. (15,28,29) As a rule, various inhibitors are employed when acid washes are used in order to protect the metal parts. (30)

Graphite is sometimes used to remove boiler scale. (1) One patented (31) series of scale-destroying compositions for use in boilers, based on this material, contains a preponderant proportion of colloidal graphite, plus smaller quantities of powdered aluminum, bronze, zinc and talc. Other patents describe different means for removing scale. (32) Some products used to eliminate such incrustations are based on materials not substantially different from standard boiler scale compounds. (33)

Although the formulation of an effective boiler scale compound is not especially difficult, it is well to remember that the use of such materials is based on a clear understanding of their action and conditions of use. Nonetheless, these items do provide an interesting group of specialty products that well warrants further investigation by the alert manufacturer.

Bibliography

- (1) Levitt, B.: Chem. Ind. 41:157, 1937.
- (2) Barkley, J. F.: "Questions and Answers on Boiler Feed-Water Conditioning," Handbook 3, Washington, Bur. Mines, 1943.
- (3) Anon.: Chem. & Met. Eng. 48:100, June 1941.
- (4) Imhoff, C. E. & Burkardt, L. A.: Ind. & Eng. Chem. 35:874, 1943.
- (5) Hayman, R. H.: Southern Power & Ind. 63:86 and 100, 1945.
- (6) Matthews, F. J.: Brewing Trade Rev. 53:266, 1939.
- (7) Levitt, B.: Chem. Ind. 50:657, 1942.
- (8) Bryant, L. R.: Can. Dairy & Ice Cream J. 17: No. 9, 15, 1938.
- (9) Volkov, P. I.: Chem. & Industrie 53:207, 1939.
- (10) de Frank, J.: Offic. Proc., Master Boiler Makers Assn. (Reprint).
- (11) Clarke, R. A.: Food Ind. 13: No. 5, 72; No. 6, 74, 1941.
- (12) Killer, H. W.: Southwest Water Works J. 26: No. 10, 20, 1945.
- (13) French, D. K.: U. S. Pat. 2,219,416, 1940.
- (14) Nechaev, M. A.: Torfyanaya Prom. (through) Chem. Abstr. 38: 6445, 1944.
- (15) Bennett, H.: "Chemical Formulary" Vols. I-VII, New York, Chem. Pub. Co.
- (16) Venable, H. G.: U. S. Pat. 2,111,684, 1938.
- (17) Turnbull, R. H.: Brit. Pat. 507,072, 1939.
- (18) Solberg, T. A.: U. S. Pat. 2,097,649, 1937.
- (19) Joschke, O.: U. S. Pat. 2,206,776, 1940.
- (20) McCoy, J. P. A.: U. S. Pat. 2,155,435, 1939.
- (21) U. S. Pat. 1,927,027.
- (22) Canad. Pat. 366,214.

(Turn to Page 153)



"Do's and Don'ts" in HOUSEHOLD INSECTICIDE APPLICATION



A SERIES of photographs showing correct and wrong technique in spraying household insecticides has recently been prepared by Hercules Powder Co., Wilmington, manufacturers of "Than-ite," synthetic insecticide raw material, and *Soap & Sanitary Chemicals* is privileged to release the accompanying selected shots from the

Hercules picture file. Some of the shots illustrate common errors in insecticide application, while others present approved spraying technique.

Other picture stories based on the Hercules photos are to appear subsequently in national magazines as a step to help educate the housewife in using insect sprays correctly. Hercules Powder Co. has also announced

that insecticide manufacturers using Hercules insecticide raw materials in their formulations will be permitted to borrow and use individual shots from the Hercules picture file in their advertising and promotion pieces.

A similar set of pictures has been prepared covering the application of cattle sprays, and is now reported ready for distribution.



Facing Page (left): All windows and doors should be closed before spraying to eliminate air currents and minimize loss of spray. (right) Insecticide manufacturers have been pounding away for years at the necessity of spraying up toward the ceiling, fogging the entire room uniformly, rather than pursuing individual insects around the room with a "direct fire" technique.



Above (left): Exposed fruit or other foodstuffs should be removed or placed under cover before spraying.



Above (right): Standard kitchen spraying practice should include treatment of enclosed sink area, as pipes passing through floor often afford means of entry for insect pests.



Center (right): Spraying above or near any open flame such as the kitchen gas stove while cooking dinner should be avoided as a fire hazard, not to mention the exposed food in the skillet.



Lower (right): Garbage and refuse containers and near-by areas need treatment as an important phase of more complete spray treatment.



3 DDT Preparations for the Insecticide Manufacturer

▼ Today Penn Salt technicians are applying just as much effort and skill to the development of DDT as they did during the war. Only now their products are for all of us to use, and their purpose is not the stamping out of typhus in Italy but the controlling of insect pests here at home. A number of new preparations have recently been put on the market which are designed for the use of manufacturers creating their own formulations for domestic and farm insecticides. Here are three which may be just what you are looking for:

PENCO DB-50

—a specially compounded dry powdered dust base containing 50% DDT. This product is designed for use by insecticide manufacturers in the formulation of finished dusts for agricultural and household purposes.

PENCO SOLVENT CONCENTRATE

—a specially developed concentrate designed for use by insecticide manufacturers who do not desire to work from technical DDT. This product can be used for the manufacture of insect sprays.

PENCO DDT-TECHNICAL

—a fine to medium white granulated powder. It has a setting point of not less than 89° C. PENCO DDT-TECHNICAL is used by insecticide manufacturers who make their own formulations of DDT concentrates and finished products.



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PENCO CATTLE SPRAY—
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taining 50% DDT which is
stable in water suspensions.

Sources Of Error

IN GERMICIDAL ACTIVITY TESTS

with

QUATERNARY AMMONIUM COMPOUNDS

SEVERAL workers have reported inconsistencies in results when performing germicidal activity tests on quaternary ammonium compounds. (Klarmann, Klarmann and Wright; Rhodes and Pressman; Tice and Pressman; Brewer, and others.) The desirability of a method which would yield reproducible results has been recognized and is obvious. (Klarmann, and Brewer)

Brewer (1943) has reported that the variations in different batches of peptones may be one of the factors responsible for inconsistent results obtained when testing surface-active agents. While this fact may aid in explaining differences in findings reported by different laboratories, it fails to explain why the same laboratory, using the same medium by the FDA Method for testing disinfectants (1931), will also obtain variable results.

Tice and Pressman (1945) in performing germicidal activity tests on "Phemerol" (p - tert - octylphenoxy - ethoxydimethylbenzyl ammonium chloride) in the presence of gelatin by the FDA Method, reported inconsistent results. They found that when .05 cc of medication-bacterial mixture was used in place of the standard 4 mm loop, the results were more uniform.

In an attempt to overcome some of the inconsistencies mentioned, the following studies were made.

Use of a Pipette for Making Transfers

We were of the opinion that negative transfer tubes do not necessarily indicate 100 per cent killing.

* Prepared under the supervision of J. C. Rhodes. Recrystallized and assayed to be 99 per cent pure.

By

R. Pressman

*Philadelphia College of
Pharmacy & Science*

and

J. C. Rhodes

*Medical Arts Laboratory
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It was also felt that the subculturing of a standard 4 mm loopful of culture medium after the primary incubation period is not a dependable procedure to rule out bacteriostatic action when testing quaternary ammonium compounds.

Experiment 1:

After the completion of a phenol coefficient test according to the FDA Method, using "Cetab" (cetyl trimethyl ammonium bromide)* as the quaternary ammonium compound, one cc of the medication-bacterial mixture from each dilution tube was plated and incubated at 37° C. for 48 hours and read.

Findings: Some of the plates showed colonies indicating that not all of the organisms were killed, even though the transfer tubes of FDA media receiving a standard loopful failed to show growth. Subcultures made from the primary transfer tubes were uniformly negative.

Experiment 2:

Decimal dilutions of a 24 hour old culture of the test organism (*E.*

typhosa) were made of the order of 1×10^{-12} to 1×10^{-15} . After plating 1 cc of each dilution, in duplicate, subcultures were made in standard transfer broth, using in each instance a standard 4 mm loopful and 1 cc into 10 replicate tubes. The tubes and plates were incubated at 37° C. Readings were made after 24 and 48 hours. Findings are presented in Table I.

It was obvious that if all of the organisms were not killed by a given dilution of the substance being tested in a specified time, the probability of transferring at least one of the remaining viable organisms from the medication-bacterial mixture would be much greater when a greater volume of the mixture was carried over than when a 4 mm loopful was used. Although 1 cc was used in the above experiment, in practice such volume might carry entirely too much medicament with it.

As a result of several experiments it was found that a volume of medication-bacterial mixture of approximately 0.05 cc was a suitable amount to use. This volume was selected and ascertained by immersing a 1 cc pipette graduated in .01 cc into the medication tube containing a volume of 5.5 cc of medication-bacterial mixture. It was found that between 0.06 and 0.08 cc was drawn into the pipette by capillarity. The volume actually transferred to the transfer broth was approximated to be 0.05 cc since a certain residuum adheres to the wall and tip of the pipette.

(In later work it was found that ordinary glass tubing i.d. 3 mm. and approximately 15 cm long or a shortened standard pipette could be used more advantageously since pipettes

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TABLE 1

Results of plating and subculturing high dilutions of a 24 hour test culture of *E. Typhosa*.

Dilution	Transfer Standard Loop		1 cc Transfer		Average Number of Colonies
	Growth	No Growth	Growth	No Growth	
10 ⁻¹²	10	0	10	0	560
10 ⁻¹³	10	0	10	0	66
10 ⁻¹⁴	3	7	10	0	6
10 ⁻¹⁵	0	10	0	10	0
Second Test					
10 ⁻¹³	5	5	10	0	132
10 ⁻¹⁴	5	5	10	0	57
10 ⁻¹⁵	10	0	3	7	3

tend to be awkward and get into the way of the operator.)

When germicidal activity tests were conducted, using the pipettes for making transfers, it was noted that the "efficiency values" obtained were much lower than values previously obtained when the FDA Method was employed. The markedly lowered values on substances that had been tested several times before suggested that the larger inoculum of medication-bacterial-mixture transferred to the transfer broth was responsible for the lower values.

Experiment 3:

A test was arranged whereby two operators performed the test simultaneously. One operator made the transfers using the pipette, the other operator made transfers using a standard loopful. The timing was arranged so that as the pipette was withdrawn from the medication-bacterial mixture the loop was inserted. After a trial run the test was performed without any difficulty and at no time was there an error in timing of more than two seconds.

The results of this experiment indicated a more "typical curve" with the pipette transfer than with the loop transfer. It was also noted that there is a marked decrease in the "coefficient values" when the pipette was used. It should also be noted that with phenol there was no marked difference in the results between the standard loop and the pipette. That the mode of killing in the case of phenol is different than with quaternary ammonium compounds has been reported by Brewer, and Klarmann.

An examination of the results of Experiment 3 revealed that the modified method, while an improvement over the standard FDA Method, is yet not ideal.

Birkhaug, in the year 1930, stressed the importance of carefully adding the culture to the medication tube so that none of it would strike the side wall. In routine practice this procedure is followed but the FDA Method advises shaking the medication tube after the addition of the culture. In mixing, however carefully, some of the medication-bacterial mixture strikes the upper wall of the medication tube. It was found that swabs made of the upper portion of the tube and cultured in broth, at the end of a test by the FDA Method, revealed viable organisms, even though the transfer tubes were found to be sterile. That the possibility of striking the wall of the tube, immediately above the liquid, always exists in routine practice is recognized.

In order to overcome this possible source of error the following experiment was performed:

Experiment 4:

A test was performed by the pipette method but the order of mixing was changed. 0.5 cc of a culture of the test organism was added carefully to the sterile medication tubes first, avoiding the side of the tubes. Because the bacteriologist is not working against time, this procedure involves no difficulty. Then the dilutions of "Cetab" were introduced, at the appropriate time, by allowing the dilution to run down the wall of the tube as the latter was being rotated. The medication tubes were *not* shaken.

Findings: Several tests conducted as described above and using a pipette for transfer produced strikingly uniform results. An additional advantage in adding the culture of test organisms first and eliminating the shaking when working with quaternary ammonium compounds is that there is no foaming. This is a factor which is quite annoying to the operator working with these compounds and certainly can be considered a possible source of error.

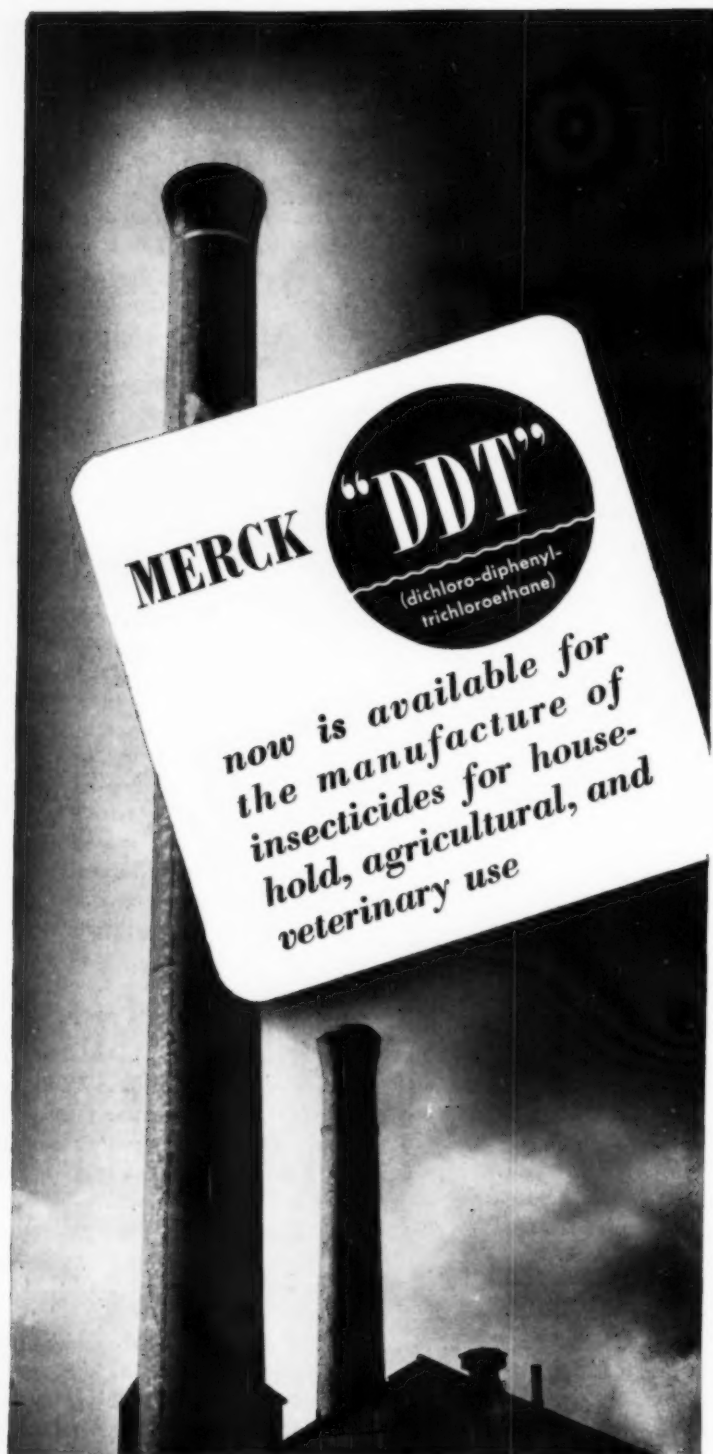
The findings in Experiment 4 led us to estimate quantitatively the percentage of viable organisms, if any, that remained after a germicidal activity test.

Experiment 5:

A 24 hour culture of the test organism (*E. typhosa*), was diluted, plated, incubated and the colonies counted in the usual manner. A germicidal activity test was then performed, adding the medicament to the organisms and using both pipettes and a loop for making transfers, simultaneously as described in Experiment 3. Immediately after the tests aqueous sterile sodium stearate was added to each of the medication-bacterial mixtures to check further action of the "Cetab." After mixing thoroughly, 1 cc of each dilution was plated in duplicate and incubated at 37° C. for 48 hours with the above plates.

Findings: The results of these tests, which are presented in Table II, indicate that there is more than .005 per cent viable organisms remaining after a ten minute period in the highest dilution which by the loop transfer indicates killing. The number of viable organisms remaining decreases as the concentration of the "Cetab" increases.

Computations dealing with bacterial populations can be very misleading. In Table II, above, use is made, however, of such computations to point out possibility of error in conducting germicidal activity tests in general and the loop transfer in particular. That some of the loop transfer tubes, and subsequent subcultures of these, failed to show growth even though the plates indicated incomplete killing is not as surprising as it at first appears.



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In plating 1cc of medication-bacterial mixture after a ten minute exposure, after diluting the mixture with sodium stearate, there were approximately seventy times as many organisms plated as there were carried over by the standard loop (estimated to be .01cc) and only fourteen times as many organisms plated by the drop (.05cc). It will be noted from Table II that a point is reached at which the dilutions become so high that the volume of medication-bacterial mixtures carried over has a direct bearing on the results.

The above data emphasized the fallacy of making subcultures of the primary transfer after forty eight hours. In making such subculture an infinitesimal amount of the inoculum present in the first loop reaches the second transplant medium. We have then a small part of a small part, i.e., a quantity of the second order of smallness. These findings suggest that the so-called high germicidal values reported with quaternary ammonium compounds may require a re-examination.

Use of Sodium Stearate As An Inactivator

THE customary practice of differentiating bacteriostatic from bactericidal efficiency by subculturing after incubation of the primary cul-

tures is time consuming, wasteful of culture medium, and was shown to be not always reliable. These disadvantages could be overcome by the addition of an inactivating or neutralizing substance to the culture medium thus doing away with subsequent subculturing after primary incubation.

Of the inactivating substances investigated, U.S.P. Tincture of Green Soap, granulated soap, and sodium stearate appeared to be the most promising. The former two were abandoned because of the variability that may be encountered in the soap content. Stoichiometric quantities of sodium stearate relative to the highest concentration (computed to be carried over to the transfer broth) of the respective quaternary ammonium compounds being tested were added to the culture medium before sterilization. The medium was tubed in 10cc quantities and autoclaved at fifteen pounds for twenty minutes.

When germicidal activity tests were conducted in which sodium stearate was added to the transfer broth, using the pipette and the changed order of adding the medicament to the test organism, the results were clear cut. Repeated tests gave reproducible results. Also the clear cut results obtained in experiments using sodium stearate prior to plating suggests that sodium stearate

has possibilities when used to inactivate small amounts of residual "Cetab."

However, when unusually large amounts of "Cetab" were added to a correspondingly greater amount of sodium stearate, the results were inconsistent. At the present we can offer no reason for this behavior. Further work on this problem is still in progress.

Variations in Bacterial Suspensions

RHODES and Pressman (1945) found that another possible source of inconsistent results when working with quaternary ammonium compounds, is the variation in the bacterial population from day to day. That the number of cells to be acted upon should influence the efficiency of the germicidal substance has been recognized (Klarmann). It has been found, for example, that the rate of growth does vary from day to day. Indeed it has been found in our laboratory that bacterial counts varied markedly on the same day. If six subcultures were made from the same stock culture and incubated for 24 hours at 37°C., the bacterial population by plate counts varied as much as 12 per cent and in terms of light transmission as much as 16 per cent by use of a photo-electric colorimeter. Correlating bacterial counts with germicidal

TABLE II
Germicidal Activity Test of Cetab

		Approximate Enumeration Of Organisms, At Different Times, By Plating				
Test Organism:	E. typhosa	Computed Num- ber of cells in .05cc medication- bacterial mixture exposed to various dilutions of chem- ical at start of test	Computed number of survivors in .05cc medication- bacterial mixture after test*	Per cent of sur- vivors in .05cc medication-bac- terial mixture after test*		
Exposure:	20°C.					
Incubation Temperature:	37°C.-48 hours					
Approximate Number Of Organisms						
Per cc Before Test:	10 Billion					
Volume of Medication-Bacterial Mixture Transferred						
Concentra- tion of Cetab	Drop (.05cc)	Standard Loop (.01cc)		MINUTES		
	5	10	5	10	0	10
1-1000	—	—	—	—	45,500,000	0
2000	—	—	—	—	45,500,000	122
4000	—	—	—	—	45,500,000	143
6000	+	—	—	—	45,500,000	550
8000	+	+	+	—	45,500,000	3280
10000	+	+	+	—	45,500,000	Innumerable
12000	+	+	+	+	45,500,000	Innumerable
14000	+	+	+	+	45,500,000	Innumerable

+ Indicates Growth.

— Indicates No Growth.

* Corrected for addition of Sodium Stearate.

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activity tests indicates that there is a definite relationship between the quantity of organisms used and the concentration of "Cetab" required to kill in a given time period. Gainey (1944) working with *Azotobacter* has shown that turbidity is not always a function of the number of viable cells after 12 hours. In another paper we will report results of an attempt to use as a standard culture a test organism diluted to a definite turbidity.

It is worth noting here with phenol there is little if any difference in results when the test culture is used straight or is diluted (as much as 10 per cent). Whereas, with "Cetab" there is a distinct difference in results, the difference varying (not linearly) with the concentration of organisms used. These findings suggest that the ratio of concentration of organisms to concentration of "Cetab" to time exposure is a relationship of extremely delicate balance.

As a result of these findings, in running routine tests, we have adopted a rule to always make 6 subcultures of our test organisms. Before starting a test the contents of the tubes are shaken, transferred to a sterile Erlenmeyer flask, again mixed, and re-distributed into 6 clean sterile tubes.

DISCUSSION: The results reported in this paper represent 260 tests by the FDA Method and the several modifications. Changes were made as work progressed, most changes produced results somewhat more encouraging than those obtained prior to the change.

To argue that a germicidal substance that kills is 99 per cent, or any arbitrary proportion, of the test organisms originally present is not as good as one that kills all of the organisms becomes academic.

Enough evidence has accumulated to show that generally the quaternary ammonium compounds are very efficient in high dilution, are quick-acting and in the dilutions usually used are relatively non-toxic, non-irritating and have marked surface active properties and are relatively inexpensive.

Another possible source of error, though not occurring as frequently

as other errors, is the lack of standard methods for assay of the quaternary ammonium compounds. The results of some different batches of these compounds may be more or less active depending upon their purity.

The modified method has produced fairly reproducible results over a three month period. In this period different batches of peptone and beef extract were used.

While the changes suggested produce more consistent results, the entire problem has not been solved. The mode by which microorganisms are killed by quaternary ammonium compounds is not yet known and more work on the problem will be necessary. For the present at least the suggested changes appear desirable.

The points being stressed in this paper are that the methods used to evaluate such compounds could be improved upon. The results of our experiments indicate that the suggested changes would eliminate, in part at least, some of the varying results reported in the past.

In the light of these observations it seems that the results reported on the germicidal activity of quaternary ammonium compounds should be re-examined.

The modified method, as now used, is by no means fool proof. Occasionally there is an erratic plus or minus sign but it occurs infrequently and permits a reading that can usually be checked.

CONCLUSIONS — A series of germicidal activity tests have been performed. The results offer a partial solution to some of the inconsistencies met in testing quaternary ammonium compounds.

These results seem to indicate that the following modifications of the present germicidal testing methods would be desirable.

- (1) The transfer of approximately .05 cc. of medication-bacterial mixture.
- (2) Adding the germicidal substance to the test organisms, without shaking.
- (3) Use of transfer broth containing a stoichiometric amount of sodium stearate.
- (4) Attempt to standardize the test organism, or use a pooled suspension of at least 6 cultures in the test.
- (5) When comparing the efficiency of one quaternary ammonium compound against another, the tests should be conducted on the same day using the same pooled suspension of test organism, the same batch of medium, distilled water, etc., etc.

References

- Birkhaug, K. E. 1930 Metaphen (4 Nitro-3, 5 - Bisacetoxy - mercuri-2-cresol). *J. M. Med. Assoc.* 95, 917-923.
- Brewer, C. M. 1943 Variations in Phenol Coefficient Determinations Of Certain Disinfectants. *Am. J. Pub. Health* 33, 261-264.
- Gainey, P. L. 1944 Measuring the Growth of *Azotobacter*. *J. Bact.* 48, 285-294.
- Klarmann, E. G. 1944 Disinfectants and Antiseptics. *Soap & Sanit. Chem.* 20, 109-117.
- Klarmann, E. G. and Wright, Eleanor S. 1944 Effect of Organic Matter on Germicidal Performance. *Soap & Sanit. Chem.* 20, 103-05.
- Rhodes, J. C. and Pressman, R. The Use of a Reference Standard for Evaluating the Germicidal Activity of Quaternary Ammonium Compounds. To be published.
- Ruehle, G. L. A. and Brewer, C. M. 1931 U. S. Food and Drug Administration Methods of Testing Antiseptics and Disinfectants. U. S. Department of Agriculture. Circular 198.
- Tice, L. F. and Pressman, R. 1945 Behavior of Positively and Negatively Charged Gelatin on Quaternary Ammonium Compounds. *J. Am. Pharm. Assoc. (Scientific Edition)* 34, 201-204.

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Bureau of Entomology & Plant Quarantine, U.S.D.A.

EXTENSIVE investigations of concentrated sprays reported by Lindquist *et al.*¹ have shown that, when properly atomized, as little as 0.5 ml. of a solution containing 20 per cent of DDT (1-trichloro-2,2-bis (*p*-chlorophenyl)ethane) and 2 per cent of pyrethrins is adequate to give 100 per cent mortality of houseflies and mosquitoes in 1,000 cubic feet of enclosed space. Diluents commonly used as vehicles for insecticides in space sprays usually do not add to the toxicity of the spray particles. Minute droplets of dilute spray may, as the diluent evaporates from the particle, be reduced to a size that is ineffective. The larger droplets, which contain toxic doses of the active principle, settle quickly to the floor. Therefore, an insect may not be receiving a lethal dose over the entire period that it is exposed to the spray. The use of highly concentrated and properly atomized sprays results in a longer effective exposure period, because the particles are small enough to remain airborne longer and evaporation of the small amount of diluent present does not reduce the droplet to an ineffective size range. Such a spray also has more time to penetrate into protected places where insects may seek seclusion.

The annoyance to workers caused by mosquitoes is an important problem in many factories located along the northeastern coast of the

United States. This problem was particularly acute during the wartime emergency, requiring operation on a 24-hour schedule, since these pests are particularly active at night. In 1943 the Bureau of Entomology and Plant Quarantine cooperated in treating a very large industrial plant (Anon.²) for the suppression of mosquitoes. These tests demonstrated that mosquito annoyance could be reduced by the discharge of aerosols containing DDT in methyl chloride.

The successful use of DDT concentrated sprays under semipractical conditions in large rooms led the writers to test the efficiency of this method of control in large buildings. One experiment with a liquefied-gas aerosol containing DDT was included for comparative purposes. The results are presented in this paper. The average size of the air-float particles in these tests ranged from about 5 to 18 microns in diameter.

Methods

Four experiments, three with concentrated sprays and one with an aerosol, were conducted in a 340,000-cubic foot gymnasium having a floor space of approximately 12,225 square feet and a 35- to 40-foot arched ceiling. Bleachers were located along the east and west sides, those on the east side extending out into an alcove about 20 feet deep. Each corner of the room was occupied by a cubical entrance-way 12 feet square and 12 feet high with a balcony on top.

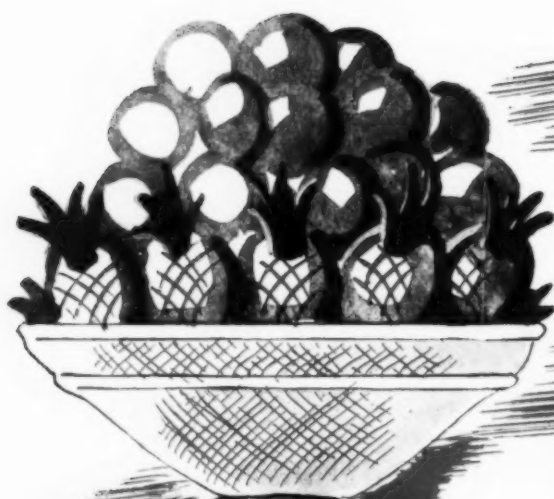
The common malaria mosquito (*Anopheles quadrimaculatus*

Say) and the housefly (*Musca domestica* L.), were used as test insects. Exposures were made in cylindrical, 16-mesh screen-wire cages, 7½ inches long and 2¾ inches in diameter, with an average of 35 houseflies and 50 mosquitoes per cage.

Two cages, one swinging and one stationary, were placed in each of eight positions, as follows: Four pairs of cages were suspended from the ceiling, (1) near the center of the room at a height of 35 feet, (2) near the center at 20 feet, (3) 15 feet from the center at a height of 32 feet, and (4) 25 feet from the center at 20 feet; two pairs were placed on the balconies at a height of 12 feet, (5) at the northeast and (6) at the southwest corner of the room; and two pairs were placed at the top of the bleachers, (7) on the east side at 14 feet and (8) on the west side at 8 feet above the floor. The exposure period was 10 minutes in the swinging cages and 1 hour in the stationary cages.

A paint-gun sprayer operated from an air compressor driven by a ¾-horsepower gasoline engine was used for spraying. In two of the experiments the spray was discharged while the operator walked back and forth along a 50-foot path in the middle of the floor. The aerosol was discharged from a 1-pound container in the same manner. In the third experiment the nozzle was held above a 16-inch fan located at the center of the room and adjusted so that the air blast drove the spray toward the ceiling. All

* This work was conducted under a transfer of funds, recommended by the Committee on Medical Research, from the Office of Scientific Research and Development to the Bureau of Entomology and Plant Quarantine.



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doors remained closed during treatment and exposure, but a row of small windows near the ceiling at one side of the building could not be closed; therefore, some of the materials may have escaped through these openings.

Results

In the first experiment 285 ml. of a concentrated spray containing 10 per cent of DDT and 20 per cent of *o*-dichlorobenzene in kerosene was used. Complete kill of mosquitoes was obtained in all the cages, both swinging and stationary, except those exposed at a height of 35 feet, where the mortality was 98 per cent in both cages. All houseflies were killed in the swinging cages except those at the 35-foot height and at the top of the bleachers at the east side of the room, where mortalities were 86 and 69 per cent. Complete kill of houseflies occurred in only three of the stationary cages, two suspended from the ceiling and one in the northeast balcony; in the other cages the mortality ranged from 41 per cent at 20 feet to 94 per cent at 14 feet from the floor.

In another experiment 310 ml. of a concentrated spray containing 10 per cent of DDT, 10 per cent of *o*-dichlorobenzene, and 45 per cent of methylene chloride in kerosene was used. In the swinging cages complete kill of mosquitoes was obtained at all positions except in the northeast balcony, where the mortality was 96 per cent, but complete kill of houseflies was obtained at only three locations, the 20-foot height in the center, in the southwest balcony, and in the west bleacher. All mosquitoes in the stationary cages were killed, and all houseflies at five stations; the mortality of houseflies suspended at the 35-foot height was 68 per cent, and in the two bleacher positions 83 and 39 per cent.

In a third experiment 310 ml. of a spray containing 10 per cent of DDT and 20 per cent of *o*-dichlorobenzene in kerosene was discharged over an electric fan. All the mosquitoes in both types of cages were killed, and all houseflies were killed except in one swing cage in the northeast balcony, where the mortality was 88 per cent, and in two stationary cages, one in the center 32 feet above the floor, and one on the west bleacher,

where the mortalities were 84 and 95 per cent.

In the aerosol test 280 grams of an aerosol containing 10 per cent of DDT, 10 per cent of cyclohexanone, 5 per cent of motor oil (S.A.E. No. 30), and 75 per cent of methyl chloride was used. Some mosquitoes survived in a swinging cage at only one station, in the northeast balcony, where the mortality was 94 per cent, and in stationary cages at two locations, one in the center 35 feet from the floor and one in the southwest balcony, where the mortalities were 54 and 97 per cent. Against houseflies the aerosol was less effective. Complete mortality resulted in only two locations, in the stationary and swinging cages on the west bleacher, and in the swinging cage in the southwest balcony. In the other locations the mortality in the swinging cages ranged from 4 per cent in the northeast balcony to 95 per cent 35 feet from the floor, and in the stationary cages from 38 per cent at 20 feet from the floor to 87 per cent in the southwest balcony.

Conclusions

The results of these tests show that finely atomized, concentrated sprays are highly effective in large enclosed spaces. The excellent kills obtained, particularly of mosquitoes, show that the method of control is very promising for use in manufacturing plants having a mosquito problem. The survival of some insects in certain cages undoubtedly was due to incomplete dispersion of the insecticide to the location of the cages, or through the cages. That some protection was afforded the insects by the screen of the cages is shown by the difference in results obtained with swinging and stationary cages. Discharging the spray over a vertical blast of air gave complete kill in all but three cages. The best results obtained without the use of a fan were complete kill in all but six cages. The use of a concentrated spray eliminates the necessity of creating the objectionable fog resulting from a dilute spray, which might prevent workers from remaining at their posts during the treatment. If desirable, concentrations as high as 20 per cent of DDT may be used successfully.

The addition of 3 per cent pyrethrins will decrease the knock-down time materially.

To take the proper advantage of the concentrated-spray principle, a sprayer producing a finely atomized mist is essential. A power-operated paint gun is satisfactory equipment for this purpose. Such equipment is economical to operate and, if not already mobile, may be easily mounted on a light truck (hand- or power-operated) for transportation along the aisles between rows of machines or around the borders of the rooms. For best results some type of fan should be arranged beneath the nozzle to blow the spray particles toward the ceiling. A dosage of 1 ml. per 1,000 cubic feet of the 10 per cent DDT concentration is adequate for complete kill. In order to obtain concentrations of DDT in kerosene above 5 per cent the presence of an auxiliary solvent is necessary. *o*-Dichlorobenzene was used for this purpose in these tests, but it may not be entirely safe for use in small confined spaces. A large number of aromatic petroleum solvents are available which are satisfactory for this purpose. Other solvents, such as cyclohexanone and tetrahydronaphthalene, may also be used.

Summary

Experiments were conducted in a 340,000-cubic foot room with finely atomized, concentrated sprays of DDT and an aerosol against the housefly (*Musca domestica* L.) and the common malaria mosquito (*Anopheles quadrimaculatus* Say). The insects were exposed in stationary and swinging screen-wire cages at heights from 8 to 35 feet and at the center, sides, and corners of the room. Dosages of from 285 to 310 ml. of concentrated sprays containing 10 per cent of DDT gave results at least as good as a dosage of 280 gm. of an aerosol containing the same concentration of DDT. Best results were obtained with 310 ml. of 10 per cent of DDT and 20 per cent of *o*-dichlorobenzene discharged over an electric fan. The results of these experiments show that the use of a concentrated spray offers promise as a means of controlling mosquitoes annoying workers in factories. Sug-

(Turn to Page 153)

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SABADILLA

Deodorized Petroleum Base Oils

By B. J. Scoggin

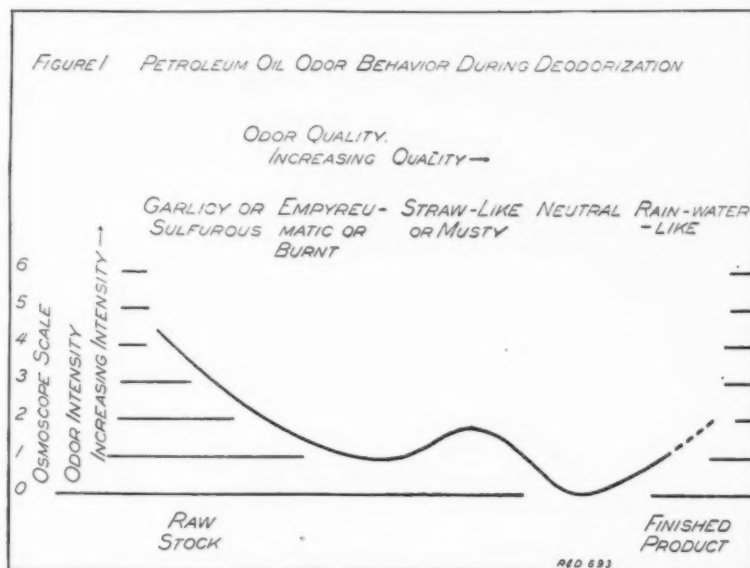
W. L. Steiner and C. C. Allen

Anderson-Prichard Oil Corp.

THE term "deodorized" has a very definite meaning to the manufacturer of insecticide base oils. The meaning is exact both with regard to oil odor quality, and with respect to strength. The significance of "deodorized" can perhaps best be explained by relating the odor phenomena accompanying petroleum deodorization. These phenomena are common to all deodorization processes, whether of the physical separation type, such as silica gel percolation for isolating a pure hydrocarbon class, or of the chemical type, such as sulfuric acid treatment for preparing medicinal oils.

Raw stock for deodorization ordinarily has a more or less garlicky or sulfurous odor. During the early stages of deodorization, the sulfurous odors disappear, giving place to an empyreumatic or burnt odor. Upon further processing, this odor in turn disappears, until a straw-like or musty odor predominates. Finally, as processing approaches the final stages, the straw odor vanishes and a rain-water-like odor develops, the odor characteristic of truly pure saturated hydrocarbons.

The above series of changes refers only to progressive alterations in odor quality. At the same time the process is under way, there are accompanying and simultaneous alterations in odor intensity. The sulfurous odor of undeodorized stock diminishes noticeably in strength before the empyreumatic odor becomes apparent. During the removal of the latter odor, odor strength again decreases sharply to almost zero before a straw odor is detectable. The straw odor, after full intensity appears, likewise diminishes



to neutral, followed by a slow rise in strength of the true pure saturated hydrocarbon odor.

Odor behavior during deodorization is illustrated in Figure 1. Each stage of the deodorization process is distinguishable in the oil refining labo-

ratory by appropriate test methods, except in the case of very heavy oils which are too involatile for odor quality to be recognizable, or the intensity to be measurable.

In the volatility range of interest to the insecticide manufacturer,

TABLE 1
DEODORIZED PETROLEUM SPRAY BASE OILS

Volatility Range	Rapid Evaporating	Moderate Evaporating Narrow Cut	Slow Evaporating
Initial Boiling Point, °F.....	326	424	480
50%	353	442	568
Dry Point	405	480	568
Final Boiling Point.....	—	—	700
Flash Point—TCC, °F.....	118	186	—
Flash Point — COC	—	200	—
Flash Point—Pensky-Martens.....	—	—	230
Viscosity at 100°F.....	—	—	43
Pour Point, °F.....	—	—	30
Color	Water-white	Water-white	Water-white
Odor Quality	Neutral to water-like, non-residual	Neutral to water-like, non-residual	Neutral to water-like, non-residual
Odor Intensity (Osmoscope)	2	1	1
Unulfonated Residue	—	98+	96+

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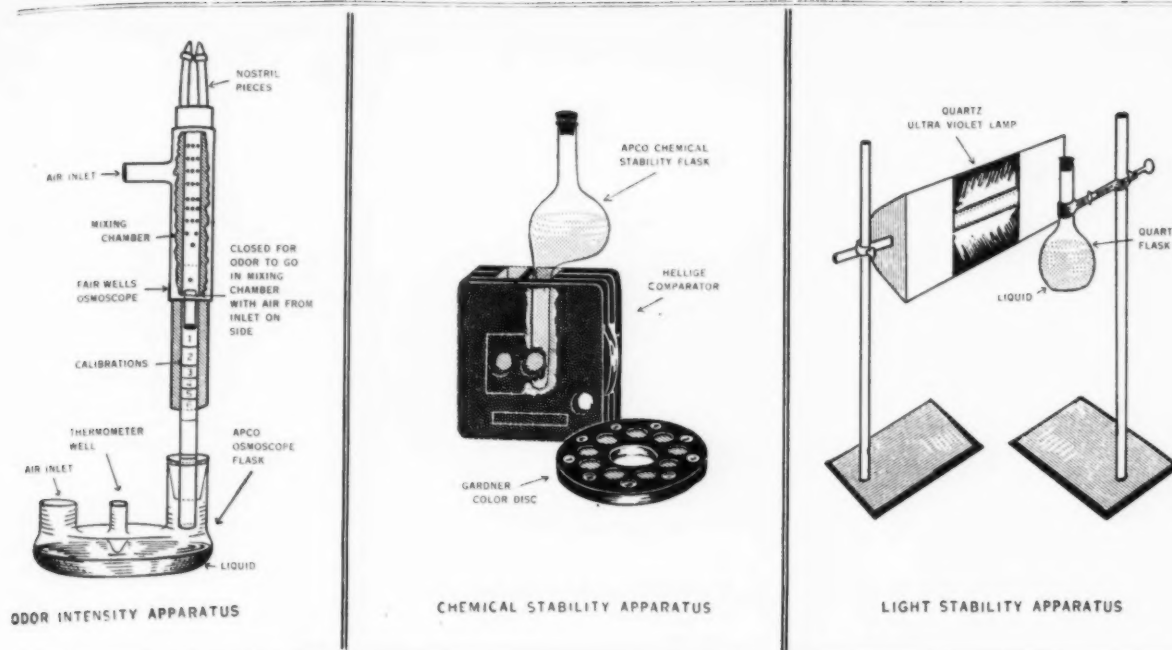


Figure 2—Deodorization and Depolarization Testing Equipment

the term "deodorized" petroleum oil means an oil carried to or beyond the neutral odor stage, thus removing all evidences of mineral spirits, kerosene and distillate origin. Speaking in a physical-chemical sense, "deodorized" is physically and chemically equivalent to "depolarized," signifying that all polar substances, consisting of olefins, benzenes, sulfur compounds and acidic or basic bodies, are absent.

Test Methods

O DOR intensity can be judged by the Osmoscope, (2), an instrument originally developed for water purification use, and adapted to the measurement of oil odor strengths by the addition of auxiliary equipment for the control of temperature and oil vapor volume.

The Osmoscope, pictured in Figure 2, employs the air-dilution principle of accurate odor strength measurement. Oil-odor tests are conducted in the presence of pure, fresh air, introducing regulated quantities of oil vapor.

The Osmoscope Flask, shown in position for an observation (Figure 2), serves the dual purpose of providing a large and standardized oil evap-

orating surface and establishing a constant oil-vapor temperature, by immersion of the flask in a thermostatic bath (not shown in the sketch).

It has been found from experience that a strictly odorless or neutral odor oil is not so much in demand as an oil having a pleasant, water-like odor, hence, in practice, deodorization is carried past the neutral stage until a positive reading of the Osmoscope is obtained.

Odor quality can be kept uniform by the manufacturer of deodorized oil through the use of a quality committee, a group of trained individuals who compare current production with a carefully kept standard. Readily ventilated rooms in the laboratory are reserved for odor quality comparison purposes, and general procedure is followed as established in the time-honored evaluation of other odor types, such as coffee aroma and wine bouquet. (1).

Two series of quality comparisons are made. The first series comprises smelling the material on filter paper. This test actually compares the vapors of the sample and standard. It is carried out at intervals throughout the evaporation of the oil, and

after disappearance of the oil, to assure absence of residual odor. The second series consists of spraying the sample and standard under controlled conditions and smelling the mists formed. This test actually gives the odor of the liquids in fine droplet form, and is likewise carried out at intervals from the initial spray-out until after complete mist settling.

Supplementary tests of chemical and light stability can also be carried out by the manufacturer of deodorized petroleum oils. These tests are particularly to control depolarization, as it has been found that depolarized or deodorized oils are stable to powerful chemicals and vigorous actinic action, which are sufficient to decompose less highly refined oils.

The chemical stability test employs a sludging type reagent and measures the sludge color. This test is a calibrated version of an older form (3), used for medicinal oil. In making the chemical stability test—see Figure 2, middle panel—a relatively large volume of oil is agitated with a small volume of reagent and the reagent is then gathered in the narrow portion of the flask where it



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is observed in the comparator. The test is very sensitive to polar compounds, which show up as a trace of color in the reagent.

Light stability (Figure 2, right-hand panel) is judged by exposing the deodorized oil sample to a constant intensity source of ultraviolet radiation for a period beyond that sufficient to break down incompletely depolarized oil. The sample is then transferred from the exposure flask to a colorimeter—turbidimeter. Polar substances are evidenced by the appearance of color or haze in the exposed oil.

Deodorized Products

DEODORIZED petroleum products are available in varying ranges of volatility and it appears important to appreciate the particular assets of each range. A volatile oil is valuable, for example, whenever a rapidly disappearing oil is required, for instance when applying a dry residual film of DDT, or a film of insect repellent, when the film is desired in an oil-free state. On the other hand a relatively involatile oil would be chosen in applications wherein a long useful oil-film life is desired.

Heretofore—before the advent of synthetic insecticides and repellents—moderately volatile oils were most commonly used. It should be noted that a moderately volatile oil, if efficiently fractionated into a narrow boiling range, permits a wide latitude in mist suspension properties. That is to say, a short cut, in conjunction with a properly adjusted sprayer, allows a much longer mist suspension time than is otherwise possible. The mist thereby permeates the air and can reach and treat all surfaces exposed, before settling. Conversely, if mist formation is undesirable, a narrow boiling cut admits adjustment for non-fogging liquid droplets.

Quite apart from the properties pertaining to volatility, deodorized oils possess other merits for insecticide manufacturers. In spray formulations in which irritant insecticides and palliatives or scents are incorporated, for instance, the use of deodorized oil reduces the amount of soothing agent or odor required. In fact, many insecticides generally regarded as irritant to the mucous membranes when used in ordinary oil sprays will be found non-irritating when used in deodorized oil, consequently rendering covering agents superfluous.

In the case of operations on premises where food is processed, packaged or stored, deodorized oil eliminates contamination by spray-base residues.

For either indoor or outdoor use, deodorized petroleum oils have been found to be entirely acceptable to many persons who have a psychological or physiological objection to petroleum odors. It is believed that this fact will be of importance in popularizing the large scale insecticide treating of outdoor areas using deodorized spray bases. With depolarized oils, no residual "kerosene" or "refinery" odors are apparent.

It may also be noted that deodorized oil is an ideal vehicle for insect repellents. These agents which have shown so much promise in fly, chigger and mosquito dopes, depend for effect on some type of insect sensory perception analogous to the sense of smell in animals. So far as is known, the neutral or water-like odor of deodorized oil does not interfere with the activity of repellents. Actually, there is good reason to believe that repellency can be enhanced by selection of a deodorized oil of suitable volatility.

Typical characteristics of deodorized products available to insecticide manufacturers are given in Table I.

References

1. Flavor, E. C. Crocker, McGraw-Hill, 1945, Chapter II, Organoleptic Technique.
2. Fair and Wells. J. Am. Water Works Assoc. 26, 1670-7 (1934).
3. Hampshire and Page. Quart. J. Pharm. and Pharmacol. 7, 354-60 (1934).

New Wax Booklet Available

Cornelius Products Company, New York, importers, refiners and producers of natural and synthetic waxes is distributing a new booklet describing these products. It lists the various natural and synthetic waxes which they supply. Formulations and manufacturing procedures are likewise shown in detail.

CONCENTRATED SPRAYS

(From Page 147)

gestions for making practical applications are given.

Literature Cited

- (1) Lindquist, A. W., H. O. Schroeder, and E. F. Knipling. 1945. Concentrated insecticides — preliminary studies of the use of concentrated sprays against houseflies and mosquitoes. *Soap and Sanit. Chem.* 21 (7):109, 111, 113, 119.
- (2) Anonymous. 1945. Westinghouse Engin. 5 (1):20.

BOILER COMPOUNDS

(From Page 133)

- (23) Oswald, T. D.: *Steam Engr.* 12:103, 1943.
- (24) Renault, L.: *Fr. Pat.* 851,136, 1940.
- (25) Bolton, E. K. & Hunt, J. K.: *U. S. Pat.* 2,225,294, 1940.
- (26) Mamet, A. P.: *Tekstil Prom.* (through) *Chem. Abstr.* 38:3765, 1944.
- (27) Williams, G. F.: *Power* 87:20, 1943.
- (28) Greiff, H.: *Farber u. Chemisch-reiniger* (through) *Chem. Abstr.* 37:5812, 1943.
- (29) Anon.: *Eng. Boiler House Rev.* 58:90, 1944.
- (30) Mamet, A. P.: *Tekstil Prom.* (through) *Chem. Abstr.* 39:1003, 1945.
- (31) Monscaudet, G.: *Brit. Pat.* 513,386, 1939.
- (32) Bannister, H. W. et al: *Brit. Pat.* 542,751, 1942.
- (33) Ryabenskii, E. M.: *Sakhur* (through) *Chem. Abstr.* 36:6713, 1942.

New "Pittchlor" Folder

The Columbia Chemical division of Pittsburgh Plate Glass Co., Pittsburgh, recently announced a new folder giving detailed information and charts on the use of "Pittchlor" (70 per cent Calcium Hypochlorite) as a laundry bleach, for water sanitation, for sewage treatment, in the food industry, for petroleum sweetening, for wool shrink-resistance treatment and for public health protection. The folder is available on request.

Geigy Compatibility Chart

Geigy Co., New York, have just announced the availability of a compatibility chart for testing Geigy DDT insecticides with various other materials, such as insecticides, fungicides, inert ingredients, adjuvants and oils used in pest control work.

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From Current Literature in the Sanitary Products Field

DDT for Bedbugs

Laboratory tests with a large number of organic compounds applied as dusts and sprays showed that only DDT and pyrethrum were satisfactory insecticides for bedbugs, *Cimex lectularius* and *C. hemipterus*. Chemically related compounds of DDT also proved promising. DDT was toxic over a much longer period than pyrethrum. Aerosols containing 6.5 per cent of DDT and 12.5 per cent of ortho-dichlorobenzene in methyl chloride, applied as 100 milligrams of DDT per square foot, gave 100 per cent kill for 54 days.

Sprays containing 5-20 per cent of DDT were highly effective under practical conditions for 5-11 months. Five per cent of DDT in kerosene applied as a wet spray at 100 milligrams of DDT per square foot is recommended. Complete kill should not be expected until about 48 hours after exposure. A. H. Madden, A. W. Lindquist, and E. F. Knipping. *J. Econ. Entomol.* 38, 265-71 (1945).

Fungicides for the Skin

Phenyl mercuric nitrate or acetate are frequently used in fungicidal preparations for the treatment of athletes' foot, and may be incorporated in a cream as follows:

Phenyl mercuric acetate	0.125%
Lanette wax	15
Soft paraffin	15
Liquid paraffin	20
Water to	100

The salt should be dissolved in the water by boiling and added to the previously melted fats. Emulsification takes place at a temperature approach-

ing that of the melting point of the oily mixture, so that there is no advantage in working at temperatures much above this. Homogenization improves the product considerably.

An ointment for the same purpose is prepared from the following:

Sodium propionate	16.4%
Propionic acid	3.6
Propylene glycol	5
Propyl alcohol	10
Zinc stearate	5
Carbowax 4000	35
Water to	100

S. J. Hopkins. *Perfumery & Essen. Oil Record* 36, 297-8 (1945).

New Disinfectant

A new disinfectant, termed Sulfargenta, is silver *para*-amino benzene sulfonate. It is prepared from sulfanilic acid and silver nitrate as an amorphous light brown powder. Suspensions of *S. typhi* in blood serum were rendered sterile when the concentration of Sulfargenta was 0.01 milligram per millileter, and cultures of *E. coli* were completely inhibited by a concentration of 0.1 gamma per millileter. Contaminated water can be sterilized in 4-6 hours with 0.01 p.p.m. A. P. Leon. *Rev. inst. salubridad enfermedades trop.* (Mex.) 6, 123-30 (1945); through Chem. Abs.

Rotenone Insecticide

A concentrated insecticidal paste which disperses readily in water contains 20 parts of a rotenone-bearing root, 20 of wood flour from *Pseudotsuga taxifolia*, 20 of pine oil, 5 of the dioctyl ester of sodium sulfosuccinate, and 35 parts of petroleum distillate. Rotenone applied in this form is apparently 3 times as effective as in

methods previously used. The synergistic action of the added wood flour is largely responsible for this effectiveness. H. J. Reynolds. U. S. Patent No. 2,369,855.

DDT Spray in Airplanes

DDT spraying of airplane interiors provided residues toxic to flies and mosquitoes for at least 6 weeks. DDT-dust treatments were less effective. The best spray treatment was a 20 per cent DDT solution applied as a fine mist. This knocked down flies and mosquitoes after a two hour exposure. A. H. Madden, A. W. Lindquist, and E. F. Knipping. *J. Econ. Entomol.* 38, 252-4 (1945).

Insect Repellent

The compound, 2-mercapto-4-methyl quinoline, is claimed as a repellent for insects, their larvae, arachnids, and acarids. It may be dispersed in water with a dispersing agent or may be suspended in water for application to plants. It may also be mixed with other insecticides and fungicides, or used as a component of fly sprays and livestock dips. S. D. Shindle, to U. S. Rubber Co. U. S. Patent No. 2,381,082.

Mothproofing Agent

Mothproofing agents are reaction products of a carbamyl derivative such as urea, and a condensation product of an aliphatic polyamine such as ethylene amine, with an acid, acid ester, or acid chloride. W. L. Morgan and E. D. McLeod, to Arnold Hoffman & Co. U. S. Patent No. 2,362,768.

Fly Spray Compound

When a secondary 2-chloroallyl amine is heated with an organic acid, acid anhydride, or acid chloride in the presence of a reaction solvent, amides are formed which are active toxicants in insecticidal spray and dust compositions. An example is *N*-(2-chloroallyl) - *N* - phenyl - acetamide. As fly sprays these compounds produced 98 per cent knockdown in 10 minutes. G. H. Coleman, W. D. Schroeder, and G. A. Griess, to The Dow Chemical Co. U. S. Patent No. 2,384,811.

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DDT in Flour Mills

DDT has "limited use" in flour mills, asserts an article appearing in the *American Miller* for January, 1946. Continuing, the unsigned article says: "It can possibly be used on the outside or exposed parts of machinery," the high ceilings or high on the walls; but always remembering that, since it is toxic to human beings, it must always be kept from touching or contaminating the flour or processed food. The user of DDT must take steps to see that wall or area treated is not used for the storage of flour or other processed food."

A 5 per cent solution in an oil base, the article states, has proven "highly satisfactory in treating empty box cars prior to loading with flour for shipment. "This, of course," adds the writer, "necessitates the lining of the car with paper after the spray has been applied." Container makers, it is also related, have immersed paper or fabric boxes, paper wrappers or cardboard cartons of cereal products in a 10 per cent solution of DDT in acetone or other solvent and then dried them. This, it is stated, "apparently gave complete protection from cadelle or insects which ordinarily would penetrate this type of container."

The crux of the whole matter, the article concludes, is the percentage of DDT in various carriers and "in this field a good deal of research will have to be done before the chemical can be universally accepted."

Aging Test for Aerosols

The introduction of DDT into liquefied-gas aerosols has created the problem of stabilizing the aerosol solution and preventing corrosion of the container. The ease with which hydrochloric acid is liberated from DDT in the presence of some iron salts has made necessary the development of an accelerated aging test for studying the effect of the different aerosol constituents on this reaction. A simple pressure test tube and a method of running a test are described. The rate of decomposition varies greatly, depending mostly on the solvents used.

Propylene oxide is both an excellent solvent for DDT and a stabil-

izer. No corrosion nor tar formation occurred in tests running as long as 150 days. The combination of an aromatic petroleum fraction and propylene oxide appears to give the most stable DDT aerosol solution. This aromatic petroleum cosolvent is a by-product in the manufacture of high-octane gasoline and consists mostly of polymers of alkylated naphthalenes and anthracenes.

Propylene oxide has the disadvantage of being highly flammable and slightly toxic. It is not flammable when mixed with "Freon" in the proportions needed. "Freon-12" appears to give a more stable solution than methyl chloride. L. D. Goodhue and W. R. Ballinger. *Ind. Eng. Chem., Anal. Ed.* 18, 131-2 (1946).

Determination of Fungicides

The color reaction of 4-amino-antipyrine with the textile mildew preventive 2,2'-methylene bis(4-chlorophenol) in the presence of potassium ferricyanide and dilute sodium carbonate solution has been found adaptable to the quantitative analysis of this phenolic material and has been used for its determination in fabric. Absorption curves and standard calibration curves are given for several other commercially important phenols, with the suggestion that this color reaction may find application in the quantitative determination of many phenolic fungicides, germicides, and other materials. S. Gottlieb and P. B. Marsh. *Ind. Eng. Chem., Anal. Ed.* 18, 16-19 (1946).

Pyrethrin Content Studies

By R. H. Carter, S. B. Soloway,
H. D. Mann, and Nathan Green

Bureau of Entomology and Plant Quarantine
U. S. D. A.

SINCE January 1943 many samples of pyrethrum flowers have been submitted to the Bureau of Entomology and Plant Quarantine for chemical analysis. Most of these samples were collected by the Foreign Economic Administration or the Office of Foreign Agricultural Relations of the United States Department of Agriculture. It is believed that a summary of the results of these analyses will be of interest to importers and manufacturers of pyrethrum insecticides. All analy-

ses were made by the official methods of the Association of Official Agricultural Chemists.

The accompanying table shows that 53 samples of pyrethrum flowers from eight countries contained total pyrethrins ranging from a maximum of 1.88 to a minimum of 0.60 per cent. It appears that all these countries can produce pyrethrum flowers of high pyrethrin content and that some of these flowers are equal or superior to those imported from Kenya.

Pyrethrins I and II Found in Pyrethrum Flowers

Country of Origin	Samples Number	Pyrethrin I		Pyrethrin II		Total pyrethrins	
		Max. %	Min. %	Max. %	Min. %	Max. %	Min. %
Brazil	5	0.56	0.25	0.66	0.35	1.26	0.60
Chile	6	.76	.73	.82	.66	1.56	1.39
China	2	.44	.26	.80	.35	1.24	.61
Guatemala	3	.88	.62	.65	.62	1.50	1.36
Kenya	11	.70	.52	.71	.57	1.40	1.10
Mexico	23	1.03	.41	.93	.55	1.88	.79
El Salvador	1	.61	—	.48	—	1.09	—
Tanganyika	2	.68	.59	.71	.68	1.39	1.27

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GENERAL OFFICES

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DDT in Animal Soap

One of the remarkable features of the successful use of DDT-impregnated clothing against the louse is its insecticidal effect after several washings, which would appear to indicate a strong absorption of the compound on textile fibers. It seemed possible that animal hair might behave in the same way and that useful results might be obtained in veterinary practice by simply incorporating DDT in soap.

Something over a year ago, experiments were started using varying proportions of the insecticide milled with household soap for trial by dog owners and veterinary surgeons. Twelve dogs were treated, including long-haired breeds, having infestations either of the dog flea or the dog louse, varying from slight to heavy. The animals were washed with the experimental soap and warm water for 10-15 minutes, then rinsed down and rubbed dry in the usual manner. All fully grown parasites on the dogs were seen to be killed by this treatment.

Seven of the dogs were kept under observation for a further 3 months, during which period they were freely exposed to re-infestation. The first sign of this appeared 9 weeks

later and was limited to one animal, the others remaining free from re-infestation for the duration of the trials. It therefore seems that a high degree of immunity from such parasites can be conferred on animals by washing with DDT soap, and that this should be of importance not only to dog owners but to farmers and animal breeders.

With a view of estimating the amount of insecticide left on the hair, samples of hair from treated and untreated animals were analyzed for hydrolyzable chlorine. In untreated hair this was 0.002 per cent, while in treated hair it was 0.005-0.007 per cent, equivalent to 0.05-0.07 per cent of DDT. It is surprising that these minute amounts of DDT should give such a lasting effect. In clothing impregnated with DDT, a concentration of only 0.01 per cent of the compound in the impregnation solution gave surfaces displaying noticeable insecticidal properties against the louse. It would appear that there is a similar sorption on the surface of hair. G. A. Campbell, T. F. West, and F. C. Hymas. *Chem. Trade J. & Chem. Engineer* 117, 740 (1945).

Mothproofing Compound

The active ingredient in mothproofing compositions is the hydrofluoride of organic bases in which fluorine is directly attached to a nitrogen atom. J. B. Salva. U. S. Patent No. 2,362,614.

DDT Powder for Lice

Arm and leg tests showed that 0.25 per cent of DDT killed all lice in 24 hours but had poor lasting qualities. Powders containing 1 per cent of DDT produced complete mortality for 8-10 days, 5 per cent powders for 14-16 days, and 10 per cent powders for 30-40 days. On grossly infested persons 10 per cent powder gave practically complete kill for 3 weeks. Mechanical mixing of DDT with diluents produced powders equal in effectiveness to powders prepared by solvent mix methods. Pyrophyllite and certain grades of talc were preferred as diluents. No marked synergistic

action was found among 100 compounds tested as DDT synergists. R. C. Bushland, L. C. McAlister, Jr., H. A. Jones and G. H. Culpepper. *J. Econ. Entomol.* 38, 210-17 (1945).

Pyrethrum Extracts

Insecticides are prepared by extracting pyrethrum flowers with a solvent mixture consisting of a light petroleum distillate containing 5-10 per cent of acetone or an equivalent volatile solvent, removing the solvent, and dissolving the resulting oleoresin in a glycol ether. Stafford Allen & Sons Ltd. and T. F. West. British Patent No. 559,735.

Agent for Metal Polish

A metal polish contains fatty acyl derivatives of amino monocarboxylic acids with at least 6 carbon atoms in the fatty acid radical. K. Hintzmann, to I. G. Farbenind. A.-G. German Patent No. 745,015.

Athletes' Foot Treatment

That there is no specific method of treating athletes' foot, the most frequent of all fungus infections, has been clearly demonstrated by appeals from the Army and Navy medical services for help in combating the infection. In spite of considerable experimentation and the introduction of new drugs, no standard method of treatment has resulted.

Recurrence of infection may result from inadequate treatment or from reinoculation from a contaminated source. Prevention must include a search for remaining foci of infection and adequate instruction and means of avoiding contact. Dusting powders used as prophylactics and also as drying agents are beneficial. A powder such as the following should be used in the shoes and socks and dusted on the feet:

Salicylic acid	2%
Zinc stearate	3
Boric acid	6
Starch	10
Powdered talc	79

Also the feet may be painted once or twice a week with a sodium propionate lotion containing 8.2 per cent of sodium propionate, 1.2 per cent of propionic acid, and 10 per cent of normal propyl alcohol. The feet should be kept clean and clean socks worn every day. If perspiration is excessive, a drying agent such as aluminum acetate should be used. *Drug & Cosmetic Ind.* 57, 840 (1945).

Synthetic Wax

The ester of a straight-chain saturated monocarboxylic acid of 16-24 carbon atoms and an alcohol of similar characteristics approximates the properties of a natural wax more closely if the alcohol or acid carries one hydroxyl group. Thus octadecyl 12-hydroxystearate is harder and more suitable than octadecyl stearate or the analogous dihydroxy compound. Straight chains are preferable to branched chains. *para*-Methyl benzene sulfonic acid serves as catalyst for the reaction. It is advantageous to blend these synthetic waxes with natural waxes. F. D. Snell and A. F. Guiteras, to Chemsearch Corp. U. S. Patent No. 2,385,849.

Carnauba Competition...

REFINED CONCORD WAX 412-A REPLACES CARNAUBA IN SELF POLISHING WAX!

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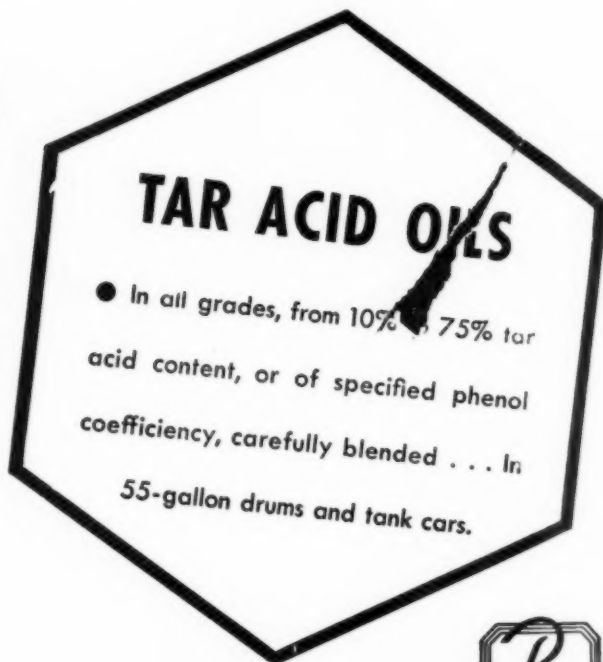
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NAIDM Meeting June 17-19

The 32nd mid-year meeting of the National Association of Insecticide & Disinfectant Manufacturers on June 17, 18 and 19 at French Lick, Indiana, will comprise an all-day session on June 17, and morning sessions on June 18 and 19. The program is in charge of C. L. Weirich of the C. B. Dolge Co. On Tuesday afternoon, June 18, a golf tournament directed by Charles W. Furst of Furst-McNess Co. will be held. On Monday evening, June 17, a baseball game and horse-shoe pitching session will go on headed by H. W. Jordan of Federal Chemical Co. On June 18 following dinner and the award of prizes,—these latter in charge of J. B. Magnus of Magnus, Mabee & Reynard, Inc.,—a floor show will be staged by Frank Nowland of the George H. Nowland Co. The meeting will end at noon, June 19.

Baldwin Buys Old Plant

Baldwin Laboratories, Saegertown, Pa., have recently purchased the plant formerly occupied by Baldwin Laboratories, Inc., before sale of the latter corporation several years ago to Robinson Industries. The Baldwin concern, headed by H. Ward Baldwin, is thus moving back into its old home.

D. W. Lynch in Hospital

David W. Lynch of the Chicago sales department of John Powell & Co., New York, was released recently from the Augustana Hospital, Chicago, where he was confined for the alleged removal of his tonsils. He has again returned to his desk in the Powell Chicago office and confirms the fact that he is now *sans* tonsils.

Buy Arkansas Chemical Firm

Purchase of Arkansas Chemical and Supply Co., 1872 State St., Little Rock, Ark., by Horace Cate and Sam A. Southall was announced late in March. Both of the new owners of the company, which deals in soaps, and

such sanitary supplies as insecticides, disinfectants, floor maintenance products and janitor supplies at wholesale, are veterans of World War II.



Dr. William Dreyfus, chief chemist for West Disinfecting Co., who died recently at the age of 77 after 47 years service with that company. He had just returned from a trip to his native Switzerland, having seen his family for the first time in six years. Widely known in America for his work in coal-tar disinfectants, he was a pioneer in disinfectant standardization. He was a graduate of the Universities of Zurich and Geneva and received his early experience in the coal-tar distillation industry in England. He was one of the founders of the National Association of Insecticide & Disinfectant Manufacturers.

Rex-Cleanwall Corp. Formed

Formation of a new company, Rex-Cleanwall Corp., Brazil, Ind., which has taken over the sale of the jobber line of "Rex Floor Machines," "Rex" vacuum cleaners, "RexGlo-X" floor wax and other jobber items, formerly made by Continental Car-Na-Var Corp., Brazil, Ind., was announced recently. The "Rex" line was handled independently of the "Car-Na-Var" line and was not sold through the "Car-Na-Var" company's own sales or-

ganization. In addition to the "Rex" line of products, Rex-Cleanwall Corp. will sell the "Cleanwall" wall washing machine, whose manufacture had to be discontinued during the war for lack of materials. The "Rex" line will now be sold exclusively through jobbers and distributors, who will also handle the wall washing machine.

Kellogg Chemical Co. Expands

The acquisition of an additional 3,700 square feet of floor space and the relocation of the company's office headquarters and part of its warehouse was announced recently by Kellogg Chemical Co., Detroit. In so doing the company has more than doubled its floor space. While production facilities are still located at 5763 Twelfth St., the office headquarters have been moved from there to 5680 Twelfth St. Kellogg manufactures and packages pest control items, household cleaners, polishes, waxes, insecticides, deodorant sprays, glass cleaner, vegetable soap, etc.

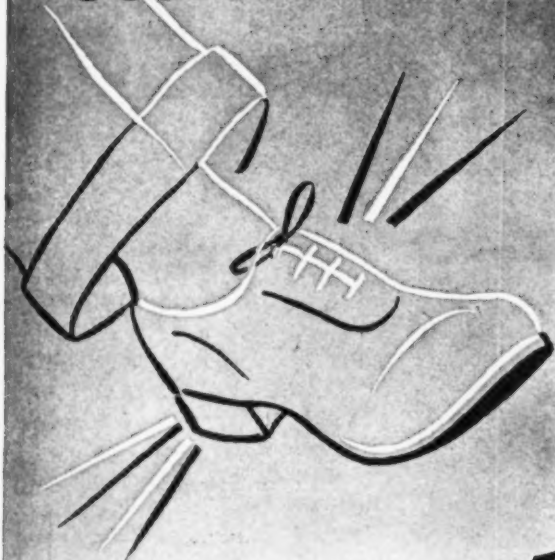
Clean Home Advances Jones

Clean Home Products, Inc., Chicago, manufacturers of moth cakes and other household products, have just announced that R. J. Jones, sales manager, has been advanced to the twin posts of vice-president and sales manager.

New Du Pont Metal Polish

A new chrome and metal polish designed primarily for cleaning and polishing automobile fittings and imparting a high luster was announced April 3, by E. I. du Pont de Nemours & Co., Wilmington, Del. An addition to the "No. 7" line of automotive products, Du Pont "Chrome & Metal Polish" is also suitable for polishing nickel, brass, copper and stainless steel in the home, office and shop. It is applied with a soft cloth that has been moistened and wrung dry. After vigorous rubbing to remove stains and rust, a luster is produced by means of rubbing with a clean, dry cloth. The new Du Pont polish is liquid packed in eight-ounce bottles and retails for 35 cents.

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RexGlo-X

THE SUPER FLOOR TREATMENT

Scuff or mar a floor treated with RexGlo-X. Then wipe clean and buff with a soft cloth. Unlike ordinary floor treatments RexGlo-X is not brittle . . . it does not scratch. Any scuff marks which appear are easily wiped out with machine polishing or a yarn dust mop. There is no water-spotting and dust does not adhere to the surface.

RexGlo-X dries almost instantly to a rich, high luster which may be converted to a brilliant gloss by polishing, if desired. Non slippery. Immediately waterproof. Applied with sheepskin applicator or string mop to linoleum, asphalt tile, composition flooring, varnished, sealed, shellacked or painted wood, marble, terrazzo, tile, rubber, and painted or "raw" cement. Priced right for profitable selling.

Write for full details and free sample.

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Sodium Metasilicate, penta hydrate
Granular or Regular Grind

TRI-MET

Mild, general household cleaner for painted surfaces in one application. Needs no wiping or rinsing. Fine, white, free-flowing TRI-MET is an excellent substitute for Tri-Sodium Phosphate in household compounds.

DISHWASHING COMPOUND

(Pink or White)

Built to Government specifications for machine dishwashing.

CONCENTRATED SOAP POWDER

Type 1 For laundry

Type 2 For hand dishwashing

HAND CLEANER

Powdered — in bulk or shaker containers

METAPLUS

For general industrial cleaning

DRIVEWAY CLEANER

For driveways, runways, garage and factory floors, grease pits, etc.

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Robert Joyce Dies

Robert F. Joyce of the Orbis Products Corp., New York, died suddenly of a heart attack on April 3 at



ROBERT F. JOYCE

his home in Brooklyn, N. Y. He had become associated with Orbis only on April 1 last having prior to that time been associated with Derris, Inc., New York, since 1938. He joined Orbis to conduct their newly formed insecticide division in conjunction with Robert Wotherspoon of that company. Active in the affairs of the National Association of Insecticide & Disinfectant Manufacturers, he was well known in the industry.

Mr. Joyce was born in Brooklyn in 1893 and attended local schools. Prior to joining Derris, Inc. in 1938, he had for a number of years been in the paper box manufacturing business. He is survived by his wife and four sons, one of whom is still in the Navy, the other three having recently been released from service, and by his brother, Judge George J. Joyce, a New York City magistrate. Interment was in Holy Cross Cemetery, Brooklyn, on April 6.

Aerosol Bomb Ceilings Set

Maximum price ceilings on sales of aerosol bombs in smaller than one-pound sizes have been set for all levels of distribution. the Office of Price Administration announced April 3. Ceilings on sales of one-pound bombs were previously set at \$2.40, wholesale, \$3 to retailers and \$4 to ultimate consumers. Prices to wholesalers now range from 30 cents for a one-ounce dispenser

to \$2.40 for a 15-ounce size. The ceiling prices to wholesalers and consumers were to go into effect April 8.

USDA DDT Recommendations

In making its recommendations concerning the use of DDT for household insecticides, the U. S. Department of Agriculture, on March 27, pointed out that DDT should be applied in such a way that it will not contaminate foodstuffs. Dusts of 10 per cent DDT in talc or pyrophyllite; suspensions or emulsions of 2½ per cent DDT dispersible powders in water, and solutions of 5 per cent DDT in kerosene or fuel oil were recommended by the Department for various household insects. The Department's release warned against the application of oil solutions to animals. It further states: "Aerosols are not recommended for applying insecticidal residues on surfaces for killing insects such as cockroaches, bedbugs, and ants that may later come in contact with them. Aerosols containing three per cent DDT and a suitable amount of purified pyrethrum extract are valuable as space applications for killing household insects such as flies, sandflies, mosquitoes, and moths, when they are in the flying stages."

Owens-Illinois Advances Phillipps

Leonard G. Phillipps, recently returned from service in the U. S. Navy, has been appointed manager of the closure sales division of Owens-Illinois Glass Co., Toledo, the company announced recently. Mr. Phillipps has been with the company since 1934, and was assistant manager of the closure and plastic sales division of the company at the time he entered the Navy, in 1943. While serving with the Navy he was personnel officer at the Quonset Point, R. I., Naval Air Station, holding the rank of lieutenant. He was released from active service on Feb. 2.

Martin Leaves U.S.I.

The resignation of Milton F. Martin as assistant general sales manager of U. S. Industrial Chemicals, Inc., effective Mar. 1, was announced recently by the company.

Wood Elects Evans Director

Walter J. Evans has been elected a director of G. H. Wood & Co., Toronto, it was announced recently by



WALTER J. EVANS

Geoffrey H. Wood, president and general manager. As general superintendent and production manager, traveling extensively throughout Canada and the United States, Mr. Evans is credited, to a large extent, by the company for the development of new techniques and the acquisition of new products. The company's extensive building expansion program will be under the direction of Mr. Evans.

McCormick on Md. Regents

Charles P. McCormick, president, McCormick & Co., Baltimore, has been appointed by Governor Herbert R. O'Connor, as a member of the Board of Regents of the University of Maryland, effective immediately and continuing through 1948. In addition, it was learned Mr. McCormick has been elected a member of the board of directors of the Boys' Clubs of America.

MM&R Give Drug Dinner

Magnus, Mabee & Reynard, Inc., New York, was host recently at a dinner for more than 400 guests representing drug wholesalers and manufacturing drug, sundry and pharmaceutical houses. The dinner was held in the grand ballroom of the Hotel Pennsylvania, and was preceded by a cocktail party.

Manufacturers of

DDT

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- ☆ time substitutes. Sold exclusively through jobbers. ☆

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11 Albert St.

New Haven 11, Conn.

Manufacturers of Quality Liquid Waxes



R. M. Hollingshead Corp., Camden, N. J., recently announced the addition of another new "Whiz" product to their line. It is "Whiz Mirror and Glass Finish."

Commend Orlando Workers

Letters of commendation from Admiral Ross T. McIntire, Surgeon General of the U. S. Navy, have recently been received by four former members of the Orlando group of the Division of Insects Affecting Man and Animals, Bureau of Entomology and Plant Quarantine, U. S. D. A. The men honored, Dr. W. E. Dove, Lawrence C. McAlister, Jr., Howard A. Jones, and H. O. Schroeder, are all now members of the entomological development section of Dodge & Olcott, Inc., New York.

The men are honored for "exceptionally meritorious service" rendered to the Naval Forces by aiding in "the adoption of new methods and techniques in the control of insect borne diseases." The specific contribution of the Division to the successful prosecution of military campaigns in the tropics is described as follows: "By the immediate recognition of the great military potentialities of DDT, insect repellents, miticides and mite repellents, evolving methods and equipment for their application, and by the coordination and execution of a series of brilliant researches converting these chemicals to maximum effi-

ciency for military use, the personnel attached to the Division of Insects Affecting Man and Animals has rendered a fundamental and outstanding contribution which has changed the entire methodology for the control of insect-borne diseases."

Special commendation was given to Dr. Dove who served as chief of the division. Dr. Dove is now chief of the entomological development section, insecticide division of D & O.

Reed Named McCormick Director

McCormick & Co., Baltimore, recently announced that G. Douglas Reed, plant superintendent in charge of buildings, machinery and equipment in Baltimore and the company's branch plants in Memphis, Houston and New York, has been elected a member of the senior board of directors of the company.

S. C. Johnson Names Carse

James B. Carse has been appointed industrial sales promotion manager for S. C. Johnson & Son, Inc., Racine, Wis., the company announced recently.

Breuer Forms New Sprayer Co.

Sprayer Corp. of America is the name of a new electric sprayer organization which will take over the manufacture and sale of sprayers formerly made by Breuer Electric Mfg. Co., Chicago. The new firm, owned by the Breuer family, will be located temporarily at 1810 Winona Ave., Chicago, but will soon be moved into a new factory which will be entirely devoted to the manufacture of electric sprayers. Grant W. Breuer, president of both companies, said the new set-up is designed to place more emphasis on the electric sprayer end of the business. Breuer Electric will continue in the manufacture of industrial vacuum cleaners and blowers and will extend its activities into other related lines in the future.

Sprayer Corp. is planning for three types of electric sprayers in place of the "Tornado" which has been widely used for several years. The "Tornado" will reappear in a completely new design as the "Mistmaster." The "Tornado" trade name, as well as a new line to be marketed as "Cyclone Sprayers," will be applied to larger units than have heretofore been available. All will be completely new developments. Other officers of the new firm, in addition to Grant Breuer, are Mrs. Beulah R. Breuer, chairman of the board, C. R. Richardson, vice-president, and C. A. Criswell, secretary. Adam A. Breuer, Jr., will be associated with Sprayer Corp. upon his discharge from the army. Both Breuer boys are sons of the late Adam A. Breuer who for years was a familiar figure in the insecticide industry and active in the affairs of the National Association of Insecticide and Disinfectant Manufacturers.

Chemical Salesman Hear Aries

A capital expenditure of over a billion dollars will be made by the chemical and drug industries of the United States during the next five years, Dr. Robert S. Aries, technical director of the Northeastern Wood Utilization Council, Brooklyn, told a luncheon meeting of the Salesmen's Association of the American Chemical Industry, held at the Roosevelt Hotel, New York, March 20.



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CORROSION RESISTANT
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Does your sprayer leak? Do you have to wear gloves when using it? Do you have to stop and pump air every few minutes, or pump continually? Do you have to clean it out every time after use? Must you frequently oil and replace gaskets, washers and hose?

All these troubles, usually encountered in a sprayer, have been eliminated in the Lofstrand. It is constructed of stainless steel and machined brass parts to withstand any corrosive action of insecticides.

Hose, gaskets and washers are made specifically to resist swelling. Spray gun is leak-proof.

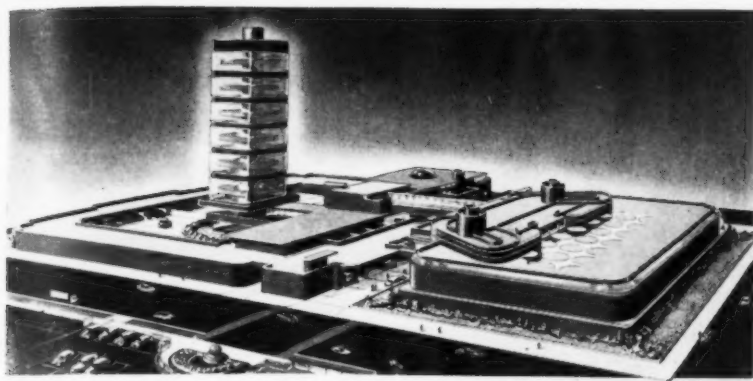
Tank has 2 gal. liquid capacity; pressure up to 60 lbs. Accurate pressure gauge. Raise pressure to 50 lbs. only twice, to spray 2 gals. of liquid. \$29.50.

If your distributor does not carry this sprayer, send his name to us, along with yours, and you will be taken care of promptly.

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"Of course it costs more . . . but it's worth more than it costs."

THE LOFSTRAND COMPANY, 954 SELIM ROAD, SILVER SPRING, MD.



New Johnson Wax Laboratory

S. C. Johnson & Son, Inc., Racine, Wis., will erect a modern wax research laboratory during the year, Herbert F. Johnson, president, has announced. The new building will mark the 60th anniversary of the founding.

Three New Gulf DDT Sprays

Gulf Oil Co., Pittsburgh, Pa., is using dealer business papers to promote three new insecticides using DDT. "Gulf Spray," first of the trio, is described as a contact insecticide including $\frac{1}{4}$ of 1 per cent of DDT plus pyrethrins for flies, mosquitoes, moths, gnats and crawling insects. "Trak," a new development, contains 6 per cent DDT, for spraying or brushing on screens, walls, porch ceilings. Residue effects, it is claimed "will be felt for weeks and months if not removed." "Tag," the third product, contains 5 per cent DDT with organic thiocyanates for spraying bed bugs and, it is claimed, "will be effective as long as six months if used as directed."

Superior Sanitary Supply Co.

Superior Sanitary Supply Co., has been organized at Wilmington, Del., by Edw. E. Rothstein, brother of the late Louis Rothstein, former owner of Sterling Soap & Chemical Co. of Wilmington. Headquarters of the new enterprise are at 306 Shiply St.

Market New Paste Insecticide

DDT Chemical Co., 740 Superior Ave., Cleveland, has announced a new insecticide in paste form, put up in tubes like tooth paste. It will not scatter or float and can be used

of the business, he said. It is to be designed by the famous architect, Frank Lloyd Wright, and will be a companion to the administration building, also planned by Wright and completed in 1939. A feature of the new laboratory will be a 15-story tower of glass.

on vertical surfaces as well as under base boards, in cracks, etc. It is said to kill roaches, silverfish and water-bugs.

Hudson Offers New Duster

H. D. Hudson Mfg. Co., 589 E. Illinois St., Chicago, has placed on the market a new insecticide duster with a long reach and directional nozzle which, it is claimed, "puts dust in places hard to get at and keeps it out of eyes, nose and mouth of operator." The device is lithographed.

The new home of Eradico Products Co., Detroit, manufacturers of household insecticides and pest control operators is located at 684 East Congress Street, Detroit 26.



Offer Dust Absorbing Liquid

Franco-American Hygienic Co., 540 N. Michigan Ave., Chicago, is now offering its dust absorbing liquid, "Dusorb," in bottles selling at retail for 50 cents and \$1.00. For years the product has been sold in barrels for industrial use only. To promote the new distribution plan a national advertising campaign is being conducted in newspapers, trade papers and consumer publications, and the product will be presented at trade shows, it was announced. Jobbers and dealers are offered trade discounts, with freight paid on shipments over 100 lbs.

New Insecticide Vaporizer

Budweiser Laboratories, 1401 W. North Ave., Chicago, has introduced a new insecticide vaporizer, which can be plugged into the nearest electrical outlet to produce steam of 28 lbs. pressure for rapid diffusion of a concentrated insecticide spray. This latter is also furnished by the company and is said to be odorless, stainless and harmless to humans. One ounce of spray per 1,000 cu. ft. of space is recommended for flies,—or two ounces to kill roaches.

Emulsol Adding To Plant

Emulsol Corp., Chicago, is building an addition to its plant at 1914 S. Kilbourn Ave., that city.

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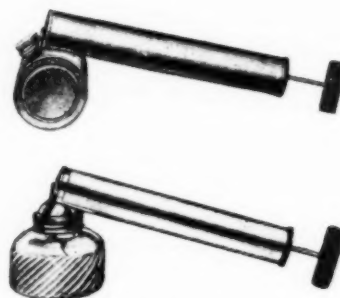
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Single Action, Continuous Types.
One of the Oldest and Best-
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SYNTHETIC MENTHOL CRYSTALS HAVING COOLING EFFECT AND
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NEW YORK 1, N. Y.

McGuire Du Pont District Mgr.

Effective April 1, Edward J. McGuire, New York branch manager of the Grasselli Chemicals department of E. I. du Pont de Nemours & Co., was named New York district sales manager, the company announced recently. G. A. Wright has been appointed assistant district sales manager of the New York area. Mr. McGuire, who completes 36 years with Du Pont in June, will continue to make his headquarters at the New York office of the company, 350 Fifth Ave.

Two Join Sonneborn Staff

Dr. Henry Sonneborn, III, until recently on active duty as a lieutenant in the U. S. Naval Reserve, and Dr. Hans Schindler, formerly senior research chemist of Pure Oil Co., Winnetka, Ill., have joined the technical staff of the Petrolia, Pa., refinery of L. Sonneborn Sons, Inc., New York. A graduate of Johns Hopkins University, where he received his Ph.D. in chemistry, Dr. Sonneborn returns to the company as assistant to Dr. F. W. Breth, vice-president and technical director. He had held that position prior to his service during the past four years as experiment and test officer at the Naval Ammunition Depot, St. Juliens Creek, Va.

Dr. Schindler joins the company as a research chemist with headquarters at the Petrolia refinery. He recently served as a member of the technical oil mission which investigated the German petroleum industry for the Technical Industrial Intelligence Committee (Joint Chiefs of Staff).

Leonard Joins Bur. of Entomology

Mortimer D. Leonard, formerly in charge of insecticide price controls for the Office of Price Administration for four years, has become associated with the Office of Foreign Plant Quarantines of the U. S. Department of Agriculture's Bureau of Entomology and Plant Quarantine, Washington. In his new post, his function will be to prepare information concerning injurious, foreign insects likely to be introduced into the United States

through commerce. During the latter part of the 1930's Mr. Leonard was with John Powell & Co., New York, for about five years.

Sprayer by Lofstrand

A stainless steel sprayer which its makers say withstands corrosive action of insecticides is being marketed



by the Lofstrand Company, Silver Spring, Maryland. Features of the sprayer, according to the manufacturers, include a shut-off valve in the hose, mesh strainers to prevent clogging by sediment, and light weight of the entire unit. The sprayer is recommended by its makers for use on poultry farms, dairies, barns and gardens as well as other applications. The product was first developed at request of U. S. Army engineers for use of DDT.

Com. Solvents Appoint Sanders

James G. Sanders, formerly of Sun Oil Co., Philadelphia, recently joined Commercial Solvents Corp., New York, to develop markets for insecticides, fumigants and allied products. As an entomologist, he was retained by the government during the war, working in South America and Iran.

Carroll Agicide Insecticide Head

Francis E. Carroll, entomologist in charge of insecticide development since 1936 for Agicide Laboratories, Inc., Racine, Wis., has been appointed general manager in charge of the insecticide division, the company announced recently. A graduate of the University of Wisconsin's college of agriculture, Mr. Carroll was connected with the U.S.D.A., Bureau of Entomology and Plant Quarantine, pea aphid investigations at Madison.

N.S.S.A. Meeting May 26-29

The National Sanitary Supply Association will hold its 23rd annual convention and merchandise display May 26-29, at the Morrison Hotel, Chicago, the association announced recently. The meeting was not held last year because of war-time restrictions. In his letter announcing the convention, S. J. Bockstanz, president of association, stated that this year's convention will devote more time than ever before to the display feature.

Sunday, May 26, has been set aside for non-members. The convention will not be open at any time to the general public, nor will non-members be admitted after May 26. The "Terrace Room" of the hotel has been reserved for the banquet, Tuesday evening, May 28.

N.J. Mosquito Exterminators Meet

The 33rd annual meeting of the New Jersey Mosquito Extermination Association was held April 3-5, at the Hotel Ambassador, Atlantic City, N. J. Included on the program were such topics as the precautions taken to prevent malaria epidemics as a result of the return of infected service men, and the safe use of DDT and other insecticides.

Westinghouse Plans "Bomb" Sale

Plans for the sale and national distribution of the Westinghouse "Bug Bomb," aerosol insecticide dispenser, have been completed, it was announced recently by the Westinghouse Electric Appliance Division, Mansfield, O. Manager of the newly-formed insecticide department is Harry S. Mills, while R. E. Ditsler is merchandise manager.

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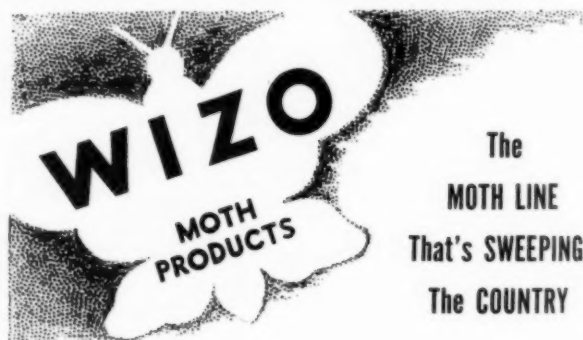
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INDEX TO ADVERTISERS

* For further details see announcement in 1945 SOAP BLUE BOOK

Agricultural Chemicals	106, 154	*General Drug Co.	4	*Per-Mo Products Co.	161
Alsop Engineering Co.	78	*R. Gesell, Inc.	181	Philadelphia Quartz Co.	62
Amco Chemical Corp.	Mar.	*Givaudan-Delawanna, Inc.	20, 21	*Pittsburgh Coal Carbonization Co.	174
*American British Chemicals Supplies	91	R. W. Greeff & Co.	168	*Pittsburgh Plate Glass Co.,	
American Can Co.	32	A. Gross & Co.	67	Columbia Chemical Division.	27
American Standard Mfg. Co.	92	Haag Laboratories	84	*John Powell & Co.	95
Anchor-Hocking Glass Corp.	17, 73	Hardesty, W. C., Co.	22	*R. J. Prentiss & Co.	117
Applied Research Labs.	175	Hercules Powder Co.	102, 103	*Proctor & Schwartz, Inc.	76
*Aromatic Products, Inc.	105	Hochstadter Labs.	175	*Pylam Products Co.	178
Armour & Co.	Mar.	*Hooker Electrochemical Co.	72	Regal Chemical Corp.	120
*Associated Chemists, Inc.	114	Hospital Management	26	*Reilly Tar & Chemical Co.	160
Attapulugus Clay Co.	156	*Houchin Machinery Co.	74	Edward Remus & Co.	80
Axton-Cross Co.	180	House of Milo.	Facing 23	Rex-Cleanwall Corp.	166
*Baird & McGuire, Inc.	128	H. D. Hudson Mfg. Co.	123	Rheem Mfg. Co.	Mar.
J. T. Baker Chem. Co.	113	*Hysan Products Co.	9	W. C. Ritchie & Co.	7
Banner Chemical Products Co.	164	Industrial Chemical Prods. Co.	178	Robinson Wagner Co.	66
*Barrett Co.	163	Industrial Management Corp.	142	*Rohm & Haas Co.	138
Bendix Chemical Corp.	172	Industrial Raw Materials Corp.	174	A. H. Ross Co.	6
*Bobrick Mfg. Corp.	111	Inland Steel Container Co.	Mar.	Rumford Chemical Works.	33
*Bri-Test Products Corp.	104	*Innis, Speiden & Co.	82	Sanders-Evenson Chemical Co.	Mar.
Buckingham Wax Co.	92	Institutions Magazine	30	Sanitary Soap Co.	109
Bush Aromatics	86	James Laboratories	175	*C. G. Sargent's Sons Corp.	Mar.
Can Manufacturers Institute.	Mar.	R. A. Jones & Co.	38	*Schimmel & Co.	Mar.
Carbide & Carbon Chemicals Corp.	Mar.	Kamen Soap Products Co.	71	F. E. Schundler & Co., Inc.	Mar.
R. E. Chapin Mfg. Wks.	172	Kinetic Chemicals, Inc.	100, 101	Seaboard Distributors, Inc.	90
Chemical Mfg. & Dist. Co.	14	Kranich Soap Co.	28	Seaboard Mfg. Labs.	Mar.
Chemical Service Co.	12, 13	H. Krevit & Co.	168	Sealey & Co.	178
Chemical Supply Co.	158	Kwik Products Co.	172	Seil, Putt & Rusby.	175
John A. Chew, Inc.	Mar.	Lancaster, Allwine & Rommel.	175	Shell Oil Co.	116
Antoine Chiris Co.	70	Alan Porter Lee.	175	Henry Simon, Ltd.	88
Cin-Made Corp.	Mar.	J. M. Lehmann Co.	34	*Skinner & Sherman.	177
Cole Laboratories, Inc.	35	C. W. Lenth.	175	*Skotch Products Corp.	182
Compagnie Parento.	68	Lofstrand Co.	170	*Foster D. Snell.	177
Concord Chemical Co.	160	Lowell Mfg. Co.	162	*Solvay Sales Corp.	2nd Cover, 119
*Consolidated Products Co.	178	*Geo. Lueders & Co.	60	Sparhawk Co.	69
Consumers Import Co.	172	MacKenzie Laboratories.	166	Sprayer Corp. of America.	182
*Continental Can Co.	58	*Magnus, Mabee & Reynard, Inc.	115	Standard Alcohol Co.	158
Cornelius Products Co.	150	Maryland Glass Corp.	Feb.	Stillwell & Gladding.	177
Cowles Detergent Co.	93	M. & H. Laboratories.	164	*Stokes & Smith Co.	82
Crosby Chemicals, Inc.	180	J. W. McCutcheon.	175	Tech Soap Co.	170
A. De Swaan.	174	C. C. McDonnell.	175	Texas Soap Mfg. Co.	161
*Davies-Young Soap Co.	18	*McLaughlin Gormley King Co.	144	E. G. Thomssen.	177
*Derris, Inc.	182	Merck & Co.	140	*Tombarel Products Corp.	66
*Diamond Alkali Co.		Miranol Chemical Co.	68	Triangle Package Machinery Co.	80
Standard Silicate Division.	8	Mirvale Chem. Co.	Mar.	Trio Chemical Works.	180
Harry W. Dietert Co.	86	Monsanto Chemical Co.	29, 121	Twin City Shellac Co.	163
*Dodge & Olcott Co.	23, 107	Moore Bros. Co.	88	Jos. Turner & Co.	52
*Dow Chemical Co.	64	National Can Co.	98, 99	Ultra Chemical Works.	10, 11
E. F. Drew & Co.	Feb.	National Milling & Chemical Co.	156	*Uncle Sam Chemical Co.	Mar.
*P. R. Dreyer, Inc.	112	Wm. D. Neuberg Co.	Mar.	Ungerer & Co.	3rd Cover
*E. I. du Pont de Nemours & Co.	152	*Newman Tallow & Soap Machinery		Union Pacific Railroad.	31
Between 54 & 55		Co.	176	U. S. Bottlers Mch. Co.	84
*Eastern Industries	Mar.	N. Y. Dermatological Lab.	175	U. S. Industrial Chemicals, Inc.	
Elite Labs.	175	*Niagara Alkali Co.	Facing 54	Between 86, 87	
Elkay Products Co.	174	Norda Essential Oil & Chemical Co.	24	*Van Ameringen-Haebler, Inc.	
Emery Industries	15	Olsen Publishing Co.	36	Front Cover, 146	
Emfo Corp.	175	Onyx Oil & Chemical Co.	124	R. T. Vanderbilt.	181
Federal Tool Corp.	Mar.	*Orbis Products Co.	127	*Velsicol Corp.	125
*Federal Varnish Co.	154	Oronite Chemical Co.	Mar.	War Assets Corp.	16
*Felton Chemical Co.	37, 96	Owens-Illinois Glass Co.	Mar.	*Welch, Holme & Clark Co.	34
Filtrol Corp.	Facing 22	Peck's Products Co.	162	*Westvaco Chlorine Prods. Corp.	Mar.
*Firmenich & Co.	4th Cover	*S. B. Penick & Co.	118	*Whittaker, Clark & Daniels.	108
*Florasynth Laboratories.	Facing 55	*Pennsylvania Refining Co.	104	Wisconsin Alumni Res. Foundation.	148
Franklin Research Co.	122	Pennsylvania Salt Mfg. Co.	136	*Wurster & Sanger, Inc.	177
Fritzsche Brothers, Inc.	56	Pensacola Municipal Advertising		Wyandotte Chemicals Corp.	Mar.
Fuld Brothers	3	Board	90	York Chemical Co.	Mar.
Gardner-Richardson Co.	97				
*Geigy Co.	126				
General Chemical Co.	19				

Every effort is made to keep this index free of errors, but no responsibility is assumed for any omissions.



"No, we ain't got it. Dat stuff sold so fast we wuz always out ob it, so we doan stock it no more!"

Repeat Business...

GOOD, bad or indifferent, almost any product backed by the right sales effort will sell the first time. But when it comes to the second, third, and subsequent sales, merit of the product is the determining factor. This is also true in the case of paid subscribers to business papers. The percentage of readers who RENEW their subscriptions year in and year out is the real acid test of advertising value.

The latest (audited by A.B.C.) subscription renewal figure for "Soap & Sanitary Chemicals" is 88.4%. Not a "war-boom" figure this, because the renewal percentage has been well over 80% for many years. This high "repeat business" in subscriptions means that if you desire to advertise in a magazine which is really READ in the field of soap products, detergents, cleaners, insecticides, disinfectants, and allied chemical specialties, look into

SOAP and Sanitary Chemicals
254 WEST 31st STREET NEW YORK 1

A.B.C. paid subscription renewal rate for year ending October, 1945—88.4%

Tale Ends

THREE bars of soap on the washstand in an office building lavatory! This observation,—and the fact that the soap had remained unstolen,—was one of the highlights of a recent visit to New York by a well-known Swiss manufacturer of perfuming materials.

* * *

Our experience is not in accord with that of the gentleman from Geneva. Two years ago, on account of the depredations of the printer's and engraver's delivery boys on our lavatory soap supply, we double-crossed them and installed a liquid soap dispenser.

* * *

Household insecticides, disinfectants, and deodorants should be completely off the OPA "price hook" by now if the report heard as we went to press is on the up-and-up. This means that all OPA price restrictions are off or about to go off of these products.

* * *

Some 74 million bottles of insect repellent placed on sale by the War Assets Corp.! This Army surplus must retail at no more than 25c per bottle, ceiling price, which is \$18,000,000 worth. Well, boys, there goes our insect repellent market for 1946,—and maybe for 1947 too!

* * *

If you plan on going to England soon, take along your own soap. A cut in British soap ration is imminent, according to a London report supposedly originating with Sir Ben Smith, British Food Minister. The United Kingdom soap situation is said to be worse now than at any time during the war.

* * *

Incidentally, what the Associated Press reported in the newspapers recently that we said about DDT ain't true! We never said it,—30,000,000 gallons of DDT,—and mostly for export. Such baloney! Having denied it privately after catching hell from 667 sources, we repeat: "It's a lie! We never said it!"

SOAP

and

SANITARY CHEMICALS

Volume XXII

Number 5

May, 1946

CONTENTS

Editorials	35
Lecithin in Soap..... By Milton Lesser	37
Consider Soap Quota Boost.....	41
Potash Soaps vs. Synthetic Detergents..... By Herbert Kranich	43
Synthetic Detergents in the Modern Tannery..... By Paul I. Smith	46
Lined Drums for Shipping Soaps..... By Dr. L. H. Ott	71
New Fungicide	126
By Frank Owens	
Roach Powders	131
By R. B. Schwitzgebel	
Aerosol Formulation	135
By Arthur W. Lindquist, B. V. Travis, A. H. Madden and Howard A. Jones	
New Trademarks	57
Bids and Awards	61
Raw Material Markets	63
Production Clinic	75
Products and Processes	81
New Patents	83
Sanitary Products Section	91
Technical Briefs	147
Classified Advertising	173
Advertisers' Index	179

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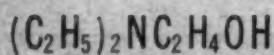
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3 ethanolamines...

Diethylethanolamine



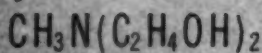
...is used chiefly in the syntheses of anti-spasmodics, anti-malarials, and pain-relieving pharmaceuticals. Its fatty esters are of particular value as emulsifying agents for waxes and oils to be applied under acidic conditions, as in the case of textile waterproofing compounds. These oil-soluble esters can be used in inks and paints as surface-active materials and may have value as rust inhibitors in petroleum products.

Dimethylethanolamine



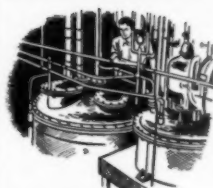
...is an intermediate in the synthesis of compounds used as corrosion inhibitors, anesthetics, acetate rayon dyestuffs, and textile auxiliaries and lubricants. Dimethylethanolamine forms highly surface-active esters which are well suited to cationic flotation processes. It is also valuable itself as a corrosion inhibitor in return condensate low-pressure steam systems.

Methyldiethanolamine



...is an intermediate in the manufacture of resins, pharmaceuticals, insecticide intermediates, emulsifying agents, and textile agents and dyestuffs. Methyldiethanolamine is a tertiary amine with two highly active hydroxyl groups and is a valuable product for the preparation of a wide variety of compounds.

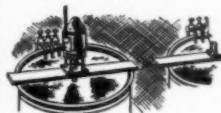
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IN SPITE of the shortage of coconut oil, fat and oil consumption in soap manufacture for the five year period ending with 1945 averaged over two billion pounds per year. This in terms of soap production gives a round figure of four billion pounds per year. For the preceding five year period, 1936-40, the soap kettle consumed yearly on average of one and a half billion pounds of fats and oils. The over-all effect of the war years was to boost soap manufacture about one-third. In terms of war-time industrial production as a whole, this is not great, but when the limitations on soap raw materials are considered,—and the quality of the soaps delivered to both industry and household,—it was a commendable performance.

Figures covering fats and oils used in soap manufacture from 1932 through 1945 have been released by the U. S. Bureau of the Census and they reveal other interesting facts. Whereas coconut oil used for soap was close to a half-billion pounds in 1941, it had dwindled to sixty million pounds by 1945. Coincident was a sharp rise in the use of tallow and grease, this total during the war years being about twice what it was prior to 1939. Another significant trend was the steady increase in the use of fatty acids from 1940 through 1945, the total rising close to 400 million pounds last year. A study of the figures tells the story of the steady decline in the consumption of olive foots and oil as supplies dried up. Also it reveals a rise in the use of fish oils, as well as babassu and palm kernel in 1945, the total of the latter two exceeding the consumption of coconut oil.

During the next year, possibly longer, the needs of the undernourished populations of the globe for food fats in addition to other requirements will undoubtedly keep the

pressure on output. With the return of world production to normal, plus a continuation of new facilities developed during the war, a sharp swing of the pendulum from scarcity to overproduction appears possible. If prices take their usual course under such conditions, an abundance of cheap fats and oils should stimulate the commercial exploitation of numerous new developments in fat chemistry of the past ten years especially in fatty acids and their widening field of new derivatives, detergent and otherwise. Marked changes in the soap making picture of old are not unlikely. When soapers again can choose their raw materials freely instead of being forced to take anything that happens to be available, the industry may find itself in a new and strange world.

WHILE viewing the present and future positions of the oil and fat picture as far as the soap industry is concerned, it is interesting to note the manner in which various synthetic organic detergents and wetting agents have been eating into the market for soap products of late. Until the Department of Agriculture restricted the use of fats and oils for the manufacture of non-soap detergent derivatives,—placing them on the same quota basis as fats going to the soap kettle,—such detergents were expanding their field rapidly and chiefly at the expense of ordinary soaps.

Especially in the case of some types of industrial and specialty soap products, they have posed ever stiffening competition. In fact, for the first time in several years, some soap specialty manufacturers recently reduced prices due to a falling off in demand. Whether this has been due to synthetic detergent competition is a question. Neverthe-

less, the complaints of soap manufacturers against the ex-quota status of the synthetics apparently caused the Department of Agriculture to act.

The action of the Department will naturally restrict the growing activities of the newer detergents for the time being. Not until the removal of all restrictions on fats and oils will the brewing competitive struggle have an opportunity to show in which direction it will move. But we feel that in the long run, more than a Department of Agriculture order is going to be needed to halt the development of these newer things and their inroads into the market for the old stand-bys.



OVERALL production and imports of oils and fats in the United States will be ten per cent higher this year than in 1945. This is the view of one of the leading American authorities on the question, a large Chicago operator. On the other hand, the Department of Agriculture experts say that this total figure will be ten per cent lower than 1945. And both have the figures to prove their contentions. And both have something of an interest in proving that they are right, one because he wants higher quotas set for soap fats and the government officials because they evidently feel that they cannot increase quotas.

When the experts disagree, the thing to do is to toss a coin or visit a fortune teller,—or seek another opinion. This latter, we have just done. We have examined our own observations of the oil and fat markets of the past twenty-five years and if we may judge by the signs,—lacking of course major crop failures,—domestic production of oils and fats will not be lower this year than last. Neither will imports, modifying factors to the contrary notwithstanding. Accordingly, we have called up our bookie and placed our two bucks on the nose of the expert from Chicago.

WORD is around in Washington that a recommendation from the Committee on Small Business of the House of Representatives to the Department of Agriculture will call for a liberalizing of soap fat and oil quotas for the small manufacturer. The report is that a quota-free allowance of 250,000 pounds of oils and fats will be recommended for each soap manufacturer before quota restrictions begin to function. To the larger soapers, this would be of no great moment, except insofar as it would multiply their competition by giving a large number of small manufacturers an opportunity to expand their outputs. To many small firms, however, it would mean the chance to increase their production and sales which they have been waiting for.

Coupled with the news that coconut oil is more plentiful, and buyers few because of restrictions, an early liberalization of quotas would be welcomed by most smaller soapers. Thus far, however, it is only a report, not a confirmed fact.



IN LESS than two months, imports of laundry soap into Puerto Rico from the U. S. were almost ten million pounds. In fact, the period covered in a report was for only forty-seven days beginning March first. Normal laundry soap consumption for the island is about 1,500,000 pounds per month. In other words, the rate of import for the period mentioned was approximately four times consumption needs. A protest from Puerto Rico against endangering the small soap industry of the island by these large shipments was to be expected. As is pointed out, with Europe literally starving for soap, why should shipments to Puerto Rico be increased so markedly at this time? Remembering the manner in which soap shipments to Puerto Rico have been kicked around as a political football, these imports might bear closer scrutiny.

Lecithin In Soap

By MILTON A. LESSER

LECITHIN has been used in soap making for well over a decade. Although European producers have long known and appreciated its properties, American soapers do not appear to have taken full advantage of the various characteristics inherent in this material. It is quite possible, too, that they have failed to appreciate how lecithin has been improved during recent years to meet the requirements of various industries. In searching for ways to make improvements and to meet growing competition without excessive costs, soapers might do well to look into the possibilities of using lecithin.

A product of growing versatility, lecithin has found quite a number of important commercial applications. Now a quite standard component of oleomargarine, chocolate, baked goods and other food products, lecithin has also achieved considerable value in making pharmaceuticals, cosmetics and soaps. Other basic industries have begun to employ lecithin and it is finding use in paints and printing inks, in textile and leather treatments, and in rubber manufacture. At present the consumption of lecithin in the United States is in the neighborhood of 2,000,000 pounds each year.(1)

The most important uses for lecithin stem from the fact that it is an effective emulsifying and dispersing agent, one capable of reducing surface and interfacial tensions. In soap making, lecithin is classed as a superfatting agent, not only because of its

beneficial effect on the skin, but also because it helps to inhibit hydrolysis, a major factor in the release of skin-irritating alkali. Another important consideration for its use lies in the lather-stabilizing action provided by lecithin.

Lecithin, it should be pointed out, is a general, not a specific term. As remarked by Harry,(2) the lecithins comprise a family of which there are many members and therefore they should be regarded as a group rather than a chemical entity. Originally, lecithin was obtained from brain tissue, and later from egg yolk, this last being a rich source of the material. However the small quantities available as well as the high price of what little was manufactured greatly hampered the wider use of lecithin. It was not until methods were devised to extract the material from an abundant and much less expensive source, like soybean oil, that lecithin began to assume its present commercial importance. Although a minor proportion of lecithin is obtained from corn oil, most of the commercial material is derived from soybean oil.

In modern practice lecithin and associated phosphatides are extracted with a petroleum solvent and separated mechanically from the mass of oil.(3) According to Hilty,(4) purified hexane is the solvent generally used in extracting soybean lecithin. After removal of the solvent, lecithin remains suspended in the oil from which it is precipitated as an emulsion by hydration with steam and sub-

sequently removed by centrifuging. After this, the lecithin emulsion is dried under vacuum at low temperatures. Further treatment, such as bleaching, may follow the drying process.

The resulting product contains about 65 per cent phosphatides and 35 per cent associated soybean oil. Analyses of commercial lecithins have shown that they consist of a mixture of the phosphatides, lecithin and cephalin, with from 30 to 40 per cent of free oil.(5) The ratio of lecithin to cephalin in these rather complex combinations seems to vary somewhat, according to the source of supply. Associated with the three basic constituents may be minute quantities of sterols, carbohydrates, glycosides and other substances. Of decided interest in this connection are foreign studies(6) which indicate that too highly refined material may not always be desirable. These investigations revealed, for example, that an impure soybean lecithin provides better emulsification than does a pure product.

Lecithin is available for commercial use in various consistencies ranging from a golden, rather heavy oil to a light-brown, soft, salve-like substance. With a bland taste and a neutral odor, soybean lecithin is free of the objectionable smell characteristic of products of animal origin.(7) Quite stable, manufacturers recommend that lecithin be stored at temperatures ranging from 70° to 100° F. Refrigerating lecithin may cause hard-

ening and perhaps some separation, while unduly high temperatures, if prolonged, will cause darkening of the material. Soybean lecithin has no definite melting point but becomes quite fluid, like an oil, at about 130° F.

The two phosphatides, lecithin and cephalin, are the major components of commercial lecithin. Chemically the phosphatides occupy a position somewhere intermediate between the fatty oils and the proteins and on this fact may rest many of their actual and potential applications. Structurally, notes Bailey, (1) the phosphatides consist of glycerides in which one fatty acid radical has been replaced with phosphoric acid. In the case of lecithin, the phosphoric acid is further esterified with choline, while in cephalin it is similarly esterified with choline. These compounds, therefore, contain both lipophilic and hydrophilic groups, a characteristic common to surface-active agents.

Readily dispersible in vegetable oils, lecithin is soluble in most organic solvents except acetone. Insoluble in water, its hydrophilic groups cause it to swell in water to form colloidal emulsions that are stable and capable of considerable dilution. Because it reduces surface tension and interfacial tension, lecithin is readily adaptable as an emulsifying and wetting agent, (8) a fact well established by controlled investigations. (9, 10).

From the viewpoint of the biochemist and physiologist, lecithin is a rather common substance; one found naturally in almost every living cell, of both the animal and vegetable kingdom. (11, 12) The universal presence of lecithin in all cells, or at any rate in the vast majority of them, suggests that it is concerned in some function common to all cells. (13) As remarked by Eichberg, (14) not only is lecithin an indispensable part of every living cell, but its activities are intimately concerned with cell metabolism and the systematic transport of fats. Indeed, soybean lecithin has been used in the treatment of conditions associated with faulty fat metabolism, (15) including resistant skin conditions. (16)

The soap maker is primarily

interested in the relationship between lecithin and the skin, as well as its effects on the dermal tissues. As is now well known, lecithin in combination with cholesterol is found in a well-defined ratio in the skin tissues. As remarked by Harry, (2) in citing the work of Rewald and Schwiager, lecithin is a relatively large constituent of human skin, being present to the extent of approximately 0.4 per cent.

THE phosphatides, as a group, have definite softening effects and this softening influence has been utilized in preparations for the skin. (11) As a product with recognized emollient action, (2, 7, 17) lecithin belongs to the group of agents employed for softening or rendering the skin more pliable. Noteworthy is Davidsohn's (18) observation that lecithin has a deeply penetrating effect on the skin. Lecithin, he states, stimulates the skin by promoting the renewal of the skin cells.

As already indicated, modern authorities in the field of soap formulation consider lecithin an important superfatting agent. (18, 19, 20) As is well known, superfatting agents contribute mildness to soaps, promote a better action on the skin and help to counteract the effects of alkaline hydrolysis. They are especially useful for people with sensitive or dry skins. Glenn, (20) of England, in comparing the emulsifying and emollient properties of lecithin with those of lanolin, came to the conclusion that so-called "vegetable lecithin," (e.g. soybean lecithin) is sufficiently cheap to be used with or in place of lanolin.

However, other European workers (21, 22) are of the opinion that lecithin rates an important place in soap formulation on the basis of its own merits. They observed that the addition of lecithin to soap not only provides a finer texture, but also effects better cleansing by increasing the emulsifying and lathering properties.

Lecithin's ability to stabilize lather is considered to be among its most important effects. (23) Thus in his review of superfatting agents, Glenn states that lecithin's "real

value to the soap maker is its stabilizing action on the lather." He notes that while lecithin reduces the bubble size, it produces a pleasing creamy effect. Of interest in this connection are the carefully controlled observations made by Inaba and his associates (24) with a series of soaps of pure fatty acids, such as oleic, palmitic and stearic acids. Using these soaps in solutions of various concentrations, they found that lathering value and stability are increased, but that the lather volume was somewhat reduced. These workers also reported that the turbidity and transparency temperatures of soap solutions are reduced by from 3 to 5° C. on the addition of lecithin.

As part of its recognized function as a superfatting agent, lecithin displays a notable alkali-depressing effect. (18) This it achieves through its ability to inhibit hydrolysis of the soap with which it is combined. It is a familiar phenomenon that all soaps in aqueous solution undergo hydrolysis to some extent and are thereby split up into free alkali and fatty acids. (25, 26) As was pointed out in a recent review in this publication, (27) it is assumed by a number of workers that the alkali so liberated is an important cause of skin irritation by soaps. From this angle, the beneficial action of lecithin should warrant much interest.

DECIDEDLY pertinent, not only with respect to the effect of lecithin on hydrolytic dissociation, but also with regard to its detergent ability and suspending powers is a series of simple, but quite indicative comparative tests made available (28) for this review. In this work three samples of liquid soap were used; one sample containing no lecithin and the other two containing respectively, 1 per cent and 2 per cent of lecithin, based on the total weight of the soap. The lecithin was incorporated by dissolving it in the liquid soap previously heated to 140° F.

Hydrolytic dissociation was determined by diluting 0.5 cc. of each sample to a volume of 100 cc. and adding 1 cc. of phenolphthalein indi-

cator; the depth of color serving as an index of hydrolysis. The color of the control was nearly a wine red; the color of the sample containing 1 per cent of lecithin was a light red, while that of the third sample, containing 2 per cent of lecithin, was a light rose. From this it is evident that as little as 1 per cent of lecithin is effective in suppressing hydrolysis.

In testing detergent ability, 1 cc. of each sample was rubbed separately on hands previously smeared with grease and dirt. It was noted that the addition of lecithin to liquid soaps decidedly facilitated the removal of grime; the soap containing 2 per cent of lecithin being superior to the one containing less of this material. The soap without lecithin appeared to lack the characteristics of the lecithin-containing soaps, the latter giving longer-lasting lather and imparting a "silky" feel to the skin. Although this phase of the test is not "scientific" in that personal or subjective factors enter into the conclusions, the findings are in line with those of others who have reported on the action of lecithin-containing soaps. Moreover, one cannot overlook the fact that personal preferences are a prime factor in soap purchasing.

Very indicative with regard to cleansing properties were the tests comparing suspending powers. For this determination, to each of three 10 cc.-graduates was added 0.5 Gm. of calcium carbonate and each of the soaps added to the 10 cc. mark. The graduates were shaken for one minute and allowed to stand for three minutes. At the end of that time, the volume of settled powder in the con-

trol soap was 0.4 cc., that in the soap with 1 per cent of lecithin was 0.2 cc.; while the third sample yielded the same value of 0.2 cc. Lecithin, therefore, displays decided ability to increase a soap's suspending powers, but this ability is not in proportion to the amount added.

WHILE providing these and other superiorities, among the few disadvantages that may be cited in connection with the use of lecithin in soaps is the factor of color, which, as previously mentioned, ranges from yellow to brown in the commercial materials. This may not be of great moment in liquid soaps which are often tinted during manufacture and diluted prior to packaging. Color is a rather more important consideration in the production of bar or cake toilet soaps. Although soaps made with lecithin are light colored, some may object to the yellowish tint imparted by its addition. In view of the several definitely advantageous qualities obtained through the use of lecithin, methods for overcoming the color factor are well worthy of consideration. Tinting the soap with an appropriate dye is one obvious answer, and a procedure very much in line with standard practices of the industry. Conversely whitening agents, like titanium dioxide, may be used in suitable proportions to help lighten the color. Most important, however, would be the incorporation of the lighter-colored grades of lecithin now available commercially. One manufacturer suggests the use of defatted lecithin for superfatting soap. Also of considerable importance is the method and thoroughness with which the lecithin is mixed with the soap base.

Lecithin, which contains fatty acid radicals, is itself saponifiable. Therefore it cannot be added to the soap kettle with the fat charge, but must be included in the soap after saponification and neutralization are completed. The method of incorporation will vary somewhat according to the type of soap.

To digress for a moment—the fact that lecithin can be saponified recalls some very interesting work reported by Hadjopoulos and Caspe (29) in 1938. They found that a lecithin soap, sodium lecithid, was superior to other known standard soaps as an intestinal bactericide and detoxifying agent. Clinical administration of this soap for the treatment of chronic intestinal disorders gave very satisfactory results.

Pursuing their studies further, these investigators (30) undertook to determine whether lecithin soap possessed properties similar to its parent substance in preserving vitamin A. They found that 5 per cent of lecithin soap retards the heat and air destruction of the vitamin in cod liver oil. Even in concentrations as low as 1 per cent, it retarded destruction of vitamin A in oil solution and aqueous emulsion. Despite the apparent significance of these investigations, there appears to be nothing in the technical or scientific literature to indicate that the findings were exploited further.

To return to lecithin itself, Davidsohn (18) has stressed that the incorporation of lecithin should be carried out carefully. Provision should be made to ensure its even distribution throughout the soap, otherwise discoloration is liable to occur in the finished product. Various methods have been devised to facilitate the incorporation of lecithin in soap or to provide other advantages in its use. Chiefly of European origin, it is a moot question whether or not such processes offer any superiorities over the use of unmodified lecithin. However, these developments do emphasize the value which has been placed on lecithin as a soap ingredient, and are therefore worthy of further consideration.

For example, both Braun (21) and Davidsohn (18) mention the avail

A discussion of the role of lecithin as an ingredient in soap formulas. An effective emulsifying and detergent agent, lecithin also helps to stabilize lather and inhibit hydrolysis

ability in Germany of a liquid containing 55 per cent of pure lecithin which may readily be incorporated in the soap when milling. The superiority is claimed to be due to the inclusion with lecithin of a so-called "liquescent" agent, but the composition of this agent is not given. However, the foreign patent literature offers other examples of special, soap-useful lecithin products and provides details on their composition. Thus, a material useful as an addition in making soap forms the basis of a French patent. (31) In this case, stable aqueous emulsions of vegetable lecithin and oil are obtained by heating fresh soybean residues (bleached with hydrogen peroxide) and adding this while still hot to a solution of waterglass.

More recent is a German patent (32) describing another method to facilitate the incorporation of lecithin in soaps. According to the specifications, in the manufacture of cosmetic or therapeutic soaps containing lecithin, the latter is mixed with a small proportion (e. g. from 10 to 15 per cent) of cyclohexanol or a cyclohexyl ester. This mixture is then incorporated into soap, preferably during milling. A base formula given in the patent illustrates this utility:

Soybean lecithin	85- 90 parts
Cyclohexanol	15- 10 "
Soap	900-1900 "

The amount of lecithin that may be incorporated into soap is not fixed. Although as little as 1 per cent will exert a favorable influence, up to 10 per cent of lecithin has been employed as a soap component. (18) Lederer (22) has found that adding 5 per cent or more of soybean lecithin increases emulsifying and lathering power and improves the cleansing properties of soaps. At the other extreme, Glenn (20) feels that up to 1 per cent is sufficient, but in this he stresses chiefly the effect on the lather.

WHILE European soapers have emphasized and concentrated on the usefulness of lecithin in cake toilet soaps, American workers seem to find that its most satisfactory use is in the production of the liquid type hand

soaps and, to some extent, in liquid shampoo soaps. Its value in liquid hand soaps is to impart mildness and a more thorough cleansing action. (3) Both are very desirable qualities in products that are used frequently by workers in industrial plants, office buildings and the like.

It is interesting that lecithin, which forms milky emulsions with water, gives clear solutions with liquid soap. Lecithin may be incorporated into a liquid soap by mixing it with the concentrated potash soap before dilution with water and before the soaps are settled and filtered. Mixing is facilitated by heating the liquid soap to about 140°F and adding the lecithin with good mixing and agitation. As an alternate procedure, the lecithin may be mixed with a small volume of the finished soap and this added to the balance of the liquid soap, which is allowed to settle, then chilled, and filtered in the cold as usual.

It is already evident that the usual procedure in making bar or cake soap is to incorporate the lecithin during the milling stage. If properly done no discolored spots or inclusions should occur.

There is growing appreciation of the value of lecithin in shaving soaps and creams. (20,33) Chilson, (34) for example, observes that the wetting action of the lather is improved by the addition of up to 3 per cent of lecithin. In addition to increasing the wetting action of the lather, he notes that lecithin ameliorates its harshness. Lecithin is easily incorporated in a shaving cream. It has been suggested (28) that, in formulas containing sodium or potassium hydroxide plus the usual fatty ingredients, the lecithin be added after saponification has been completed. The lecithin is then added in the form of an emulsion made by adding it to the water required to bring the product up to weight. Another suggested method is that 5 parts of a "mucilage" prepared from 10 parts of vegetable lecithin and 90 parts of water be added to 100 parts of shaving cream. (33)

Merely by way of illustration there may be cited the following lecithin-containing shaving cream, as given in Chilson's standard text:

	Percent
Stearic acid, triple pressed	25.00
Coconut oil, cochin	5.13
Triethanolamine stearate	3.12
Lecithin	1.00
Potassium hydroxide	6.13
Water	54.34
Glycerine	4.60
Perfume	0.50

An interesting observation made during studies of lecithinated shaving cream was the fact that, in addition to its effects in reducing "drag," improving the lather, and imparting a smooth velvety feel to the skin, such products also had a "sparing" effect on the razor blades. After three shaves with a lecithinated cream, microscopic examination showed the blades to be free of nicks, whereas a similar number of shaves with an untreated cream caused several nicks in the blades used. Since the experiments were rather well controlled, this effect cannot be attributed to mere coincidence. (28)

Another phase of usefulness for lecithin is its ability to facilitate the combination of solvents with soaps. (8) This has been aptly illustrated in a German patent (35) in which it is claimed that soap containing an organic solvent, like carbon tetrachloride or benzene, is improved by the addition of vegetable lecithin.

BIBLIOGRAPHY

- (1) Bailey, A. E.: "Industrial Oil and Fat Products," New York, Interscience, 1945, pp. 364-5.
- (2) Harry, R. G.: "Modern Cosmetology," New York Chem. Publ. Co., 1940, pp. 70-1.
- (3) Eichberg, J.: *Oil & Soap*, 16:51, 1939.
- (4) Hilty, W. K.: *Amer. Ink Maker*, 23:29, July 1945.
- (5) Hutt, H. H. & Weatherall, H.: *Analyst* 69:39, 1944.
- (6) Puchkovskii, B. S.: *Colloid J. (U.S.S.R.)* 3:643, 1937, (through) *Chem. Abstr.* 32:6766, 1938.
- (7) DeNavarre, M. G.: "Chemistry & Manufacture of Cosmetics," New York, Van Nostrand, 1941, p. 465.
- (8) Schwarz, E. W. K.: *Amer. Dye-stuff Reprtr.* 29:220, 1940.
- (9) Woodman, R. M.: *J. Soc. Chem. Ind.* 51:95T, 1932.
- (10) Puchkovskii, B. S. & Strukova, J. P.: *Bull. inst. colloides Voronege*, 1934, (through) *Chem. Abstr.* 32:3851, 1938.
- (11) Rewald, B.: *Soap, Perf. & Cosmetics*, April, 1937, p. 333.
- (12) Thannhauser, S. J. et al: *J. Biol. Chem.* 129:709 & 717, 1939.
- (13) Mathews, A. P.: "Principles of Biochemistry," Baltimore, Wood, 1936, p. 175.

(Turn to Page 143)

QUOTA RELIEF for SOAP MAKERS

**House Committee on Small Business
Considering substantial increase
in ex-quota fats for small soapers**

THE Small Business Committee of the House of Representatives which held a three-day hearing in Washington April 3, 4 and 5 to investigate charges that WFO-42b is being administered unfairly, resumed its investigations after a ten-day lapse with another session April 15. The principal witness on this date was John F. Bass, one of three partners in the Central Hide and Rendering Company and the Bass Soap Company of Abilene, Texas.

The name of the Bass Soap Company had been brought to the attention of the committee at one of its earlier sessions by E. O. Gillam of Gillam Soap Works, Fort Worth, Texas, who charged that the Bass Company was consuming fats in the manufacture of soap at the rate of 30,000 pounds per day although they had never had a quota. Mr. Bass admitted that his operations had not been covered by any quota, but stated that his rate of consumption of fats and oils had never been above 8,000 pounds a day. He plead complete ignorance of the necessity of having a quota and stated that it would be impossible to continue the operation of his five rendering plants—which he indicated have been operated at a loss—unless he is able to obtain an adequate quota base from the Department of Agriculture to allow him to conduct his soap plant on a profitable scale.

Gordon Peyton, Acting Assistant Administrator, Production and Marketing Administration of the U. S. Department of Agriculture, stated that the department has held off on proceeding either civilly or through the criminal courts against Mr. Bass for his admitted violations of quota rules until he had an opportunity to present his case at the hearing.

Some idea of the direction in which the collective mind of the committee seems to be pointing may be obtained from an explanation given to Mr. Bass by Representative Estes Kefauver who presided at the April 5 hearing. Mr. Kefauver said in part, "I think the little fellow ought to be given an additional break because of the many, many little soap manufacturers having a mighty hard time operating at all under the present quota system."

"We have considered various things, one of them including an ex-quota in the base period, and others of giving them an allowance of 250,000 or 300,000 pounds before the quota restriction is begun. And I think these gentlemen are going to try to work out some way of giving an additional allowance to the small fellow."

He indicated also that in addition to giving relief in the way of increased quotas to small soapers, some plan would have to be developed to see that new firms are permitted to enter the soap business on a sufficiently

large scale to allow them to operate economically. He referred to the present small quota consumption allowed by the department (15,000 pounds of fats a quarter) as a "beginners quota."

Further on this point, Mr. Peyton indicated that the department has been giving considerable thought to the quota that should be allowed a new firm desirous of entering the soap business. They have been thinking along the lines of 60,000 to 100,000 pounds of fats a quarter for the manufacturer of laundry bar soap. No action has been taken as yet, however, pending the result of the hearings. Mr. Kefauver reported, further, that the committee, in addition to considering recommendation of a higher quota basis for smaller soap makers, has also been considering a possible recommendation that WFO-42b be abolished entirely, but that no decision has yet been reached as to exactly what to recommend. He did go on record, however, as believing that the Department of Agriculture is insisting on maintaining "too large a stock pile of oils and fats and they ought to try to see whether they might not be able to get by with a smaller stock pile."

The subject of soap exports was also taken up by the committee and reference was made to the point that export licenses are not required on shipments of soap to Puerto Rico. An allocation system has theoretically been in effect on such exports but it was

brought out in a letter from Pedro Grau, importers and exporters, San Juan, Puerto Rico, that Puerto Rico's four small laundry soap manufacturers have recently had to shut down their plants because of excessive arrivals of American soap. According to a letter from Mr. Grau, "Puerto Rico with a normal monthly laundry soap consumption of 1,500,000 pounds has imported 8,450,000 pounds in 34 days."

Mr. Peyton admitted that Puerto Rico's allocation has been exceeded, but that future shipments would be curtailed to compensate.

SEVERAL additional witnesses appeared at the April 3, 4 and 5 hearings whose testimony it was not possible to include in our report in the April issue of *Soap & Sanitary Chemicals*. Among several soap makers who testified as being opposed to abandonment of the quota system, was Carter Poland of Poland Soap Works, Anniston, Ala., who stated that he "doesn't want to see the quotas done away with because I think it is the only fair basis on which to handle the situation, and the only assurance the small soap makers have of being able to get fats." He indicated, however, that he did not think it the function of Congress to keep a soap factory operating or to insure that it keep in peace time the production it enjoyed during the war years. He further expressed a certain skepticism that holders of war contracts have been handling government business simply for patriotic reasons.

Another witness at the April 5th hearing was Walter S. Straub of W. F. Straub Co., Chicago, and now on leave helping with the Emergency Famine Relief Program. He offered the opinion that "from the standpoint of the big effort being made to increase shipments of edible fats abroad, it would be a handicap to that program if quotas were removed at this time on the use of fats." He indicated further that he considers that established soap manufacturers, like other manufacturers who have been serving markets through good times and bad, should be entitled to special consideration. It is inequitable, he believes, for newcomers to be allowed to invade established

markets during a period when no sales effort is required and while established manufacturers are held down by quota restrictions. "If it were hard to sell soap today," observed Mr. Straub, "the committee would not be bothered by some of the demands that have been made upon it."

Another witness at the April 15th session was E. A. Moss of Swift & Co., Chicago, who expressed his belief that "some correction in present quotas is called for." Under the present quota set-up, he figured, the per capita soap supply for civilians this year will be only 20 lbs. as compared with normal per capita consumption of around 25 lbs. In his opinion there will be enough domestic fat available to make the 20 lbs. per capita permitted by the quotas, and imports of fats and oils, which he believes will reach 400,000,000 lbs., should make it possible to correct the apparent shortage. He indicated that he was in favor of lifting all controls as soon as possible, but that the decision as to when this action could be taken should logically be left to government officials who alone have all the facts on which to act.

There was considerable discussion at this session as to how much additional oil and fat would be consumed if an ex-quota base of 250,000 lbs. per quarter were given each soap maker. Figures presented by the Department of Agriculture indicated that an additional 95,000,000 lbs. of fats and oils would be required. If this additional quantity cannot either be produced domestically or imported, such a reallocation of present supplies would mean that the quotas of larger soap makers would have to be reduced. It was estimated, for instance, that Procter & Gamble's present quota of 726,000,000 lbs. a year would have to be cut by approximately 12 per cent, and that Lever Bros. Co. would suffer a substantial cut in their present quota of 393,000,000 lbs.

SUBSEQUENT to the close of the April 3, 4 and 5 hearings, a supplementary statement outlining the particular supply problems of the potash soap group was filed by Herbert H. Kranich of Kranich Soap Co., Brook-

lyn, who had been a witness at the April 4 hearing. Mr. Kranich's statement was as follows:

April 13, 1946
Honorable Estes Kefauver
Subcommittee on Complaints
Special Committee to Investigate Small Business
U. S. House of Representatives
Washington 25, D. C.
Dear Sir:

The excellent suggestion developed by members of your subcommittee at the recent hearing on the Fat and Oil Order WFO-42b of 250,000 pounds base exemption before quota use of these raw materials by all soapmakers, would afford the vast majority of the firms in the industry substantial relief, and enactment by the War Food Administration of your suggestion would definitely help small business.

However, do you not think it advisable that this 250,000 pounds be made available for bonus use only after quota fats and oils have been consumed? A simple change in the Order WFO-42b, sub-section B, paragraph 2, of the figure 10,000 pounds to 72,500 pounds would provide the same relief as embodied in your original suggestion for the quarterly raise of 62,500 pounds amounts to 250,000 pounds per annum. The original governing provisions in this subsection would remain in effect. Trafficking in quotas would be voided, for under the order only original quota and not a seller's new 72,500 pound bonus could be conveyed to the purchaser of an established soap business.

In the entire industry approximately 20 firms (using more than five million pounds per annum each) would surely each utilize their entire 250,000 pound additional bonus and the total amount consumed by this group would amount to five million pounds. The other 235 firms now consuming 150 million pounds of fats and oils under quota would not and could not, each and every one, consume their 250,000 pounds of additional bonus. If they did, it would mean 58,750,000 pounds to be consumed, or a total increase of 39 per cent additional business which is very improbable. They might possibly consume, under the most favorable conditions, 20 million pounds above quota under this bonus plan, (an average of less than 100,000 pounds each), which might amount to possibly 15 per cent additional business. Of this total amount the potash soapmakers might consume a maximum of eight million pounds and the balance of 12 million pounds would be consumed by all the other small soda soap manufacturers. The total therefore, of the 20 firm group plus the 235 firm group would be 25 million pounds or 1½ per cent of the present fat and oil consumption. This figure is submitted in contrast to the 65 million pounds mentioned in the testimony, which latter would mean that the 235 firms would consume the difference (60 million pounds), an improbability as pointed out. Most of them do not have the plant capacity and the new C.P.A. order limiting commercial construction, would inhibit production expansion.

Consideration must also be given to the veterans or civilians who desire

(Turn to Page 175)

Potash Soaps

VS

Synthetic Detergents

BY

*Herbert H. Kranich**

Kranich Soap Company

SYNTHETIC detergents are becoming an increasingly important subject to the potash soap maker, today, for they are serious competitors with potash soaps for a share of the market for washing materials. A number of new synthetics have been developed during the war years, and some of these have already come on the market, or will shortly, to put additional competitive pressure on the seller of potash soaps. It is important that the potash soap maker know the weaknesses as well as the strong points of these interesting new detergent materials, for only with a complete knowledge of their chemical and detergent nature, will he be fully prepared to meet their competition.

Synthetic detergents possess certain desirable characteristics in greater degree and others of importance in lesser degree than do soaps. To the extent that user's needs are confined to the characteristics which synthetic detergents possess in greater degree than do soaps, they may find greater acceptance. Conversely, to the extent that they have replaced soaps in fields of use where the user has greater need of products having the outstanding characteristics of soap, the acceptance now accorded the new synthetic products may prove only temporary.

In my opinion, synthetic detergents are still on trial, and must prove

equality with soaps for many of soap's uses. As a manufacturer and chemist, my interest in them is confined to those offered as replacements for potash soaps. At the moment the new synthetics enjoy the advantages any new product would have that was offered as a replacement, and for which strong performance claims were made. It is characteristic of Americans to try anything once, and they willingly pay for experience. This attitude makes it possible for advertisers to get a large trial use of a new product when offered as superior to old products. But punchlining one or two characteristics in advertising and promotion does not prove equality or superiority in over-all performance, nor does initial acceptance indicate continuing consumer preference.

Many times the deficiencies of new products are found to outweigh their advantages, so that they disappoint users when offered as over-all replacements for products that have a wide field of acceptance and use. This is through no fault of the manufacturer, because in most instances he simply does not know all the uses to which his product may be put. It is natural when trying to stimulate use, that he emphasize the known characteristics of his product that seem to make it superior to the most competitive product sold in largest volume. Unless the new product is definitely harmful, no one can blame him for failing to point out in what particular respects it may be less efficient than the entrenched prod-

uct. New products, therefore, except in fields under strict governmental supervision, are sold almost universally on a "buyer beware" basis. Sooner or later mass reaction of users shakes the product down into its proper use category. My guess, therefore, is that it will take a lot more than "drowning duck" demonstrations to hold the initial new-product acceptance as more people become aware of the deficiencies of the new synthetic products.

In making these general observations, I am not trying to underrate the serviceability of synthetic detergents for certain specific uses, particularly industrial, where utility depends upon characteristics inherent in the chemical nature of the products. I do intend, however, to deflate some of the overemphasis that has been put on these new compounds as all-purpose detergents for personal and institutional use.

There is an almost endless variety of synthetic surface active agents, classified broadly as cyclic or acyclic. The cyclic detergents are closed chain or ring compounds consisting of carbon atoms only, or carbon atoms linked with one or more other atoms, to form heterocyclic compounds. The acyclic detergents are straight chain or branch chain compounds consisting only of carbon atoms or linked with other atoms as part of the chain.

Chlorination, hydrogenation, esterification, polymerization, sulfation and sulfonation are some of the chemical reactions used to produce them. At

* Before Potash Soap Division, Association of American Soap & Glycerine Producers, Hotel Roosevelt, New York, Jan. 10, 1946.

the present time there are from two to three hundred different chemical compounds being offered commercially as synthetic detergents. The list is a very imposing one, and the end is nowhere in sight. Among this large number of different chemical combinations, every characteristic that soap possesses can probably be duplicated and possibly some new characteristic included that soap does not possess.

The common, outstanding characteristic of synthetic products that compete with potash soaps, is their action as wetting agents. A wetting agent is one that lowers the surface tension of the liquid in which it is placed. Tests would show that many of the new synthetic products increase the wetting action of water to a greater extent than do potash soaps. Described another way, between interfacial surfaces they would show a greater degree of penetration. This makes detergents coming within the more wettable class of particular value in certain industrial processes, particularly in the wetting of textiles for various purposes.

BUT the very fact that some synthetic detergents have greater wetting power than potash soaps appears to be a handicap rather than an asset in some important fields in which potash soaps are used. To illustrate: the power of the synthetic compound as a detergent lies chiefly in its penetrability due to the lowering of surface tension. It penetrates to substances adhering to surfaces and allows the water to wash away the dirt. But unfortunately its action is not confined to dirt alone. When applied to flesh, it does not stop at merely getting under the dirt, but also gets under the layer of oil on the skin, and may cause the defatted skin while drying to crack. Or when applied to the hair, it not only gets under the dirt, but if too much of the natural oil is removed, the hair in time may split and crack.

When the more active wetting agents are used on either wood or linoleum floors, they not only get under the dirt and allow it to be washed away, but may penetrate the pores causing loss of resin from wood, or oil

from linoleum. Linoleum may dry out and crack due to loss of the oils which keep it flexible. The action on wood floors, however, is both chemical and mechanical. Everyone knows that sulfuric acid will destroy complex cellulose. The synthetic products generally are sulfuric acid compounds. High penetrability causes them to seep between the natural resin and the lignocellulose particles of the wood. When this penetration is complete, a portion of the resins is released and washed away, and some of the detergent which has penetrated the wood is not washed away because the rinse water is not able to penetrate as deeply as the detergent. A decomposition of the residual detergent in the pores of the wood may cause sulfuric acid to be liberated to attack the wood and cause it to erode.

These characteristics are not found in potash soaps. While these soaps are wetting agents, their penetrating action is less. Instead of getting under dirt by deep penetration into the pores of skin, wood and linoleum, potash soaps dissolve and emulsify the dirt for removal by rinsing, with only slight removal of oils, fats, waxes and resins.

As wider use of synthetic surface active agents is made, particularly in homes, public buildings, and institutions, I think we will see more and more precaution notices to users, such as warning them to wear rubber gloves when using them. No such precaution is needed for potash soaps, not only because they dissolve and emulsify dirt, but also because they have a definitely emollient effect on the skin of the user. This is one of the beneficial characteristics not to be found in the new synthetic products.

Having some idea of the action of the synthetic wetting compounds on bare wood, linoleum and skin, it is interesting to see the lengths to which some companies have gone in recommending their use on painted woodwork and walls, without rinsing. I would be interested to know what scientific basis, if any, there might be for this. It might be interesting to learn whether it is better to rinse the surface thus tending to de-oil it, or leave the detergent there to decompose and further possible attack.

Some manufacturers make quite a point of the claim that their synthetic products can be formulated with pH value varying from 1 to 18, whereas the pH value of soap, both potash and soda, ranges between 9 and 11. How this might be of importance to users of potash soaps is difficult to see. If any one used potash soap in a mineral or organic acid bath, it would be important, but I have never heard of anyone attempting this so that if synthetic detergents can be made so that they won't decompose in such a bath, they have developed a new non-competitive industrial use all for themselves.

Possibly because of the performance limitations of synthetic detergents and the fact that their average cost is much higher than that of soaps, much prominence has been given by their manufacturers to the fact that most of them do not form lime or magnesium precipitates when used in hard water. There is no denying the fact, that soaps do form precipitates under the conditions stated. On the other hand, for maintenance cleaning, shampooing and handwashing, this has never been regarded as an important defect of potash soaps because any precipitates formed are readily flushed away in the rinse water. A shortcoming of the synthetics, somewhat offsetting their advantage on this point, however is that synthetic detergents do have to be buffered with other chemicals in order to function properly in exceptionally hard water areas.

There is little point in comparing additional use characteristics of synthetic detergents and potash soaps other than to say that I have failed to find any advantage that synthetic detergents offer for the uses customarily made of potash soaps. Summarizing the situation as a whole, it is clear that *the most important surface active material and all-purpose detergent still is ordinary soap.*

The United States Tariff Commission's report on the production and sale of surface active agents in 1944 shows the value of synthetic detergents averaged 22 cents a pound, the minimum being 9 cents and the maximum \$1.02 per pound. On the cost side, however, it may be significant to note

that the 9-cent figure covers the value of petroleum sulfonates, which today are selling to manufacturer-users around 12 cents per pound. In the post-war period these are likely to become the most aggressive competitors for the market served by soaps not only because of their low cost, but also because of the availability of raw material.

In passing, I believe that any important displacement of the use of animal and vegetable fats in soaps, by the use of petroleum and coal-tar derivatives in synthetic surface active agents, could have political repercussions. All soaps are processed from animal fats and vegetable oils, both of which are farm products. The money received for these fats and oils is an important item in farm income. To the extent that hydro-carbons replace domestic fats and oils in surface active agents, the American farmers' market for fats and oils will shrink proportionately. The extent of the repercussions in Congress is anybody's guess, but it may be significant to note that the farmers and the renderers in the past have shown concern regarding fat imports, to the extent, among other things, of having a 3 cent per pound excise tax put on the first domestic processing of Philippine coconut oil. History might repeat itself with respect to hydro-carbon substitution for animal and vegetable fats and oils in surface active agents. At any rate, it makes interesting speculation.

WHILE I think it is clear that for maintenance cleaning, shampooing and hand-washing, potash soaps have a decided edge over synthetic surface active agents in both performance and cost, I am sure we are going to be faced with keen competition from these new products during the post-war period. We are entrenched, and firmly, and before any appreciable volume of business is lost, there is certain to be an aggressive struggle. We are alert to the situation, and as more is known about the new products, the better able both we and consumers will be to judge their merits. I am not at all pessimistic as to what the results will be. No matter how much money and sales

effort is spent on a new product, it still must meet the test of performance and economy. If the newcomers do not give as good all-around performance as potash soaps, or if they prove too costly, they will not be able to hold their try-out market no matter how much pressure is put behind them in acquiring it.

In spite of the anticipated competition from the new products in our field, I expect the demand for potash soaps to increase. Millions of new structures will be built, including many factories, schools, hospitals, office buildings, and theaters. As these new outlets and many others come into being, as our population increases, and as our standards of cleanliness and sanitation are raised, I think all of us can look forward to an expanding market for potash soaps. The development of new non-detergent uses for our products also will further increase our markets.

A realistic view of our competition on the one hand and our sales potential on the other leads me to believe we can improve our situation materially by spending more dollars in sales research and promotion of our products. To get larger potash soap volume, isn't it just good sense on our part to pay as little attention to competitive products as possible other than to know their weak as well as strong points, and to devote as much attention as we can to developing and promoting the use of our own products, in both old and new fields of use? Will not each of us be better off if individually we do the following:

1. Improve the quality of our products by the most advanced formulation and manufacturing methods;
2. Develop and adhere to the kind of enlightened merchandising policy that will enable us to maintain quality standards;
3. Exchange experiences, ideas and opinions with each other through meetings to be held under the auspices of the Potash Soap Division; and
4. Promote the widest possible use of our products.

These things, if done, should enable us to look forward with confidence to an expanding potash soap market no matter how many new synthetic surface active agents are sold or how much pressure is put on their distribution.

Questions Answered by Mr. Kranich

(Statement by Member of Audience): Your paper was primarily a comparison of potash soap with synthetic detergents. I think that one important fact in line with the suggestion at the end is the realization that some of the synthetic detergents can be manufactured for specific operations. For instance, you speak of the advantage of potash soap for emulsifying and rinsing rather than by penetration. I think we should pay some attention to some of these synthetic products as additions in small proportion to potash soaps because they can be tailor-made, as fatty acids are tailor-made, to increase emulsification. Or we can make synthetic detergents which have primarily foam value. We should, as mentioned, look into some of these specific products as additives to enhance the properties of rinsability, emulsification, and foaming. While the petroleum sulfonates do not possess all of these characteristics, we should look into these synthetic detergents carefully.

(Another Statement): We have had occasion in the early days of using fatty acids to try to aid the soap by addition of wetting agents. We have never found much of an improvement. It was detrimental to the soap. Primarily, the addition of a wetting agent in every case reduced the lather. As far as we could see in the small addition that was added to the soap we would not get the inherent showing of surface tension.

(Another Statement): I think it is a good point to bear in mind that there might be certain advantages of synthetic detergents that the potash soap people could use. Two specific things synthetic detergents seem to do would help soap. One, synthetic detergents reduce the viscosity of the heavy solutions, and they are easier to filter. Two, liquid soap with little coconut oil, if used in salt water, won't give any lather at all, but if you add a small percentage of synthetic detergent it gives a profuse lather, and it should be added.

Q. What is the rinsability of the wetting agent if you take a laboratory glass, let us say, as compared with

(Turn to Page 145)

SYNTHETIC DETERGENTS

In The Modern Tannery

EMULSIFYING, detergent and wetting agents have always found a wide use in the leather industry, but it is only within comparatively recent years that any products more efficient than sulfonated castor oil and ordinary textile soap have been available. There are now a number of the new synthetic agents in regular use in tanneries, and operatives are becoming skilled in the use of sulfated fatty alcohols, hydrocarbon sulfonates and other surface active compounds.

There are several processes in the light leather section of the leather industry which depend for their efficiency on the use of emulsifying, detergent and wetting auxiliaries. In some cases it is necessary to effect the emulsification of grease and dirt so as to secure their easy removal from the surface of the leather, fur or wool, and in others, it is required to obtain uniform deep penetration of oleaginous mixtures and therefore thorough emulsification of the constituent fats. Soap and sulfonated oils have their limitations, and experience with the new agents show that they are able to disperse lime soaps and to retain their surface activity in the presence of acids, alkalies and common salt. Moreover, they possess greatly superior emulsifying properties to both hard and soft soaps and sulfonated castor oil.

Woolskins require thorough scouring before tanning so as to remove all the grease and dirt from the fibers and to leave them soft and lustrous. Unless all impurities are removed from the wool, the skins lose much of their attractiveness when dressed for rugs and slipper work.

Sulfated fatty alcohols are now commonly employed for cleansing raw and partially dressed woolled sheepskins. The skins are first soaked in

warm water and then paddled in a solution containing 3-5 lb. of the sulfated fatty alcohol and 1-2 lb. soda ash in 100 gallons of warm water (85-105 deg. F.), followed by further treatment for 20-30 minutes in a solution of 3 lb. of the alcohol per 100 gallons. The skins are then rinsed thoroughly either in running water or with the hose. The advantages claimed for sulfated fatty alcohols chosen for use in cleaning woolskins are their ready solubility in water; stability to dilute acids and alkalies and stability to hard water. In the last respect it is found that under certain conditions, calcium derivatives are liable to be formed, but as these are held dispersed in fine suspension they do not agglomerate to form scums of sticky precipitates. Sulfated fatty alcohols can be chosen which retain their detergent and emulsifying properties in salt solutions and also in the presence of aqueous solutions of such salts as alum, potassium titanium oxalate, copper sulfate, chromium salts, etc.

The same type of sulfated fatty alcohol used for scouring woolskins is frequently used for fatliquoring. Here it is required to introduce a large quantity of fatliquor into the leather without leaving an objectionable greasiness on either grain or flesh. In modern tannery practice, sulfated fatty alcohols are used in conjunction with sulfonated codliver oil and as much as 12-15 per cent of this valuable feeding agent can be incorporated into gloving leather without any grease showing on the surface of the leather.

Sulfated fatty alcohols are finding use for the scouring of leather to remove slight surface greasiness prior to dyeing. This is particularly important in the case of crust semichrome or mordant chrome leather for shoe uppers. With these leathers it is essential

By Paul J. Smith

that even shades should be obtained during dyeing so as to reduce the amount of finishing required. This is not possible if the grain layer is clogged with grease. It is not claimed that sulfated fatty alcohols carry out any degreasing of the leather, but it is known that they effect a thorough emulsification of the grease and so prevent uneven deposits.

Another very interesting application found for sulfated fatty alcohols is in the tucking liquors employed by chamois and aldehyde dressers. Alkaline solutions are usually employed for tucking and at boiling temperature the free alkali causes a certain weakening of the fibers due to intensive hydrolysis of the collagen complexes. Dispersions of sulfated fatty alcohol are perfectly neutral and therefore much less liable to injure the leather at the high working temperature.

Sulfated fatty alcohols and other ionic surface active agents combine with collagen particularly on the acid side of the iso-electric point, moreover, although they are stable in the presence of weak acid solutions and concentrations of salt there is an appreciable lowering of emulsifying properties when used in acid and salt liquors. Experience has shown that the above compounds are not satisfactory for the degreasing of pickled pelts and, as there is a great need for efficient aqueous degreasing agents, considerable research has been carried out throughout the world to develop new and stable products. It has recently been announced that Imperial Chemical Industries Ltd., of Great Britain, have now perfected a non-ionic auxiliary



which is capable of removing all the grease from pickled pelts having a pH of about 2 and a fairly heavy salt content, usually 15 per cent by weight. The British product, known as "Corilene DG," is a brown mobile liquid, freely soluble in water. Its outstanding property is that it removes greases from the pelts efficiently under aqueous conditions of working, thereby showing to marked advantage over the usual method of degreasing with the aid of an organic solvent such as paraffin.

The procedure for degreasing is fairly simple. The skins are first drummed in a warm dry drum for 15 minutes, then 5 per cent "Corilene DG," heated to 30 deg. C., with live steam or by any other method, is then added through the hollow axle and drumming continued for 30 minutes, after which 100 per cent of a 3 per cent brine solution is added in portions over a period of one hour. The liquor is drained off and the goods washed several times with 3 per cent brine

solution. More rinses are necessary in this case than in the process of degreasing with paraffin. The recovery of grease from the drained-off liquors can be effected by boiling up with live steam and allowing to settle and cool overnight. The grease containing a certain amount of degreasing agent, can then be scooped off the surface and purified further if necessary.

It is certain that this non-ionic degreasing agent will prove most acceptable to tanners as by its use it will be possible to effect worthwhile economies in the preliminary processes and to produce a better leather. Although at present this new compound is only recommended for use with pickled sheepskins, it is likely that processes will soon be developed rendering it practical for use in degreasing other pelts.

There is an extensive market in the leather industry for new emulsifying, detergent and wetting agents and manufacturers are well advised to study the sales potential of this trade.

Not only are emulsifying agents required for the wet processes of manufacture, but also for the preparation of various types of finishes. Such products as diglycol stearate enable permanent suspensions of pigments to be prepared, and also ensure good emulsification of natural and synthetic waxes for finishes. There are various anti-foaming compounds in demand in the industry for reducing the surface tension of tanning and dyeing liquors and so preventing case hardening or ugly grain contraction. Indeed, a thorough market survey of the leather industry will reveal many possible uses for both ionic and non-ionic auxiliaries.

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The quantity of any bleaching earth required to remove a definite amount of chlorophyll from an oil can be determined by evaluation of the ion adsorption properties of the bleaching earth. H. F. Hinners, J. J. McCarthy, and R. E. Bass. *Oil & Soap* 23, 22-5 (1946).

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Army Soap to N. Y.

James S. McIntosh, in charge of soap procurement for the Army through the U. S. Army Quartermaster Corps has been moved to New York from former offices in Jersey City. The new soap procurement office along with some other Quartermaster departments is now located at 111 East 16th St., New York.

Bims Set Golf Dates

Bims of New York have set three golf dates for the 1946 season. According to Martin F. Schultes of Hewitt Soap Co., chairman of the New York group, these golf tournaments have been scheduled as follows: Thursday, June 22, at Baltusrol Golf Club, Short Hills, N. J.; Tuesday, August 13, Winged Foot Golf Club, Mamaroneck, N. Y.; Friday, September 13, Wheatley Hills Golf Club, East Williston, Long Island. Further details will be announced at a later date.

Cancel Potash Soap Meeting

The Program Committee for the Potash Soap Division of the Association of American Soap and Glycerine Producers announced early this month that its plans for a meeting in Chicago, tentatively scheduled for June 6, have been cancelled. Instead the Program Committee planned to have a meeting of its own members early in May.

Knox Heads Macy Drug Dept.

Samuel Knox, who recently rejoined R. H. Macy & Co., New York, after nearly five years service with the U. S. Navy, has been appointed manager of the drug department, succeeding Marcus Salzman, resigned, the company announced last month. He has been with Macy's since 1933, and has held executive positions in several departments including the drug department. For a short while, he was con-



ROBERT E. HEALY

C-P-P Elects Two New V.P.'s

Two new vice-presidents were elected at the recent annual meeting of the board of directors of Colgate-Palmolive-Peet Co., Jersey City, N. J. Robert E. Healy, who has been with the advertising department since 1934, and who was appointed advertising manager in 1942, has been elected vice-president in charge of advertising. Before joining Colgate-Palmolive-Peet, he was a member of the advertising department of Johns-Manville Corp., New York.

nected with Supremacy Products, Macy's wholesale drug and cosmetic subsidiary. A graduate of Yale University, where he received his B.S. degree in economics, Mr. Knox was called to active duty as an ensign in May, 1941. He was released from active duty in September, 1946, with the rank of lieutenant commander.

Industrial Soap Div. Meets

The Industrial Soap Division of the Association of American Soap & Glycerine Producers held a meeting at the Sky Top Club, Cresco, Pa., April 11th in connection with the meeting of the Laundry and Cleaners' Allied Trades Association.



HUGH R. MacMILLAN, JR.

The other new vice-president is Hugh R. MacMillan, Jr., who was named to the post of vice-president in charge of production. He joined the company in 1941 as chief industrial engineer. Later, he became superintendent of the Jersey City plant, and following that, domestic production superintendent. In 1945 he was appointed general superintendent of the company, which position he held until his recent election to vice-presidency. Mr. MacMillan attended the University of Missouri.

C. D. & C. A. Holds "Garden Party"

The Chicago Drug and Chemical Association held its 18th Annual Spring Garden Party in the grand ballroom of the Drake Hotel, Chicago, the evening of April 27. A reception preceded the dinner.

P. & G. Test "Prell," New Shampoo

Procter & Gamble, Cincinnati, are reported market-testing "Prell," a new shampoo product that is packed in a tube. It is being promoted via regional newspapers and radio programs, although it is believed it will be some time before the product is advertised on a national basis.



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Detergents at Restaurant Show

BETTER Dishwashing was the theme of a panel discussion of the sanitary phase of restaurant operation included in the three-day program of the National Restaurant Association's 27th annual convention in Chicago late in March. Formal speakers included Prof. W. L. Mallman, noted bacteriologist at Michigan State College, East Lansing, Mich.; Dr. Nathan Sinai, Professor of Public Health, Univ. of Michigan, Ann Arbor; and Walter F. Snyder, executive director, National Sanitation Foundation. Featured at the session was the first public showing of a motion picture, "Dishwashing Dividends," produced for Economics Laboratory, St. Paul, Minn.

Exhibitors of sanitary chemicals in the Stevens Hotel's exposition hall were Economics Laboratory; the Dubois Co., Cincinnati; Pittsburgh Chemical Laboratories, Pittsburgh; Turco Products, Inc., Los Angeles; and Wyandotte Chemical Corp., Wyandotte, Mich. Several grocery jobbing houses also displayed private brand cleaning products in their exhibits.

Chief attraction in the Economics Laboratory booth was a model of their new electronic dispenser for automatically controlling the quantity of cleaning compounds flowing into mechanical dishwashers. Production of the device on an extensive scale will be started when necessary materials are freely available. R. A. Harland, Chicago district manager, stated. Others who staffed the booth were E. V. Osborn, vice-president and general manager, Paul Evans, general sales manager, and E. O. Briel, traveling supervisor.

Wyandotte Chemical Corp. displayed a new product, "Neo Suds," for cleaning glassware and silverware; also their "Keego" cleaner for mechanical dishwashers; "F-100" for floor and wall cleaning; "Steri-Chlor" for germicidal treatment and other specialized cleaning materials. G. T. Robinson, Chicago regional manager, was in charge, assisted by R. M. Leich, Chicago salesman and Harry Right-

mire, from the Wyandotte headquarters.

T. V. Dubois, president of the Dubois Co., received visitors at their booth, assisted by Louis Lerner, secretary-treasurer, Clyde Hargadine, western sales manager, Todd Francis, Chicago district manager, and others from the company's staff of field salesmen. Products displayed by this 25-year-old sanitary chemical concern included "K O L" dishwashing compound, "Actex," a detergent for kitchen floors, and "Neutraloid," a concentrated dehydrated soap for use in a dispensing type drum.

Turco Products, Inc., featured "Thoral," a year-old product for sterilizing dishes and glassware; "Activ" for washing floors, "Handisan," a powdered hand soap and other items, and explained their service program conducted from offices and warehouses in the principal cities. George Keane, Chicago district manager, in charge, with fieldmen from nearby Illinois, Indiana and Wisconsin territories.

An exhibit of their one-month-old "Deep Fatfry" cleaner attracted large crowds to the Pittsburgh Chemical Laboratory's booth, where George E. Schmidt, president of the concern, explained how the new product acts in removing old, burnt-on grease and carbon from the frying kettles. A representative display of the company's 120 different chemical sanitation products was shown on an illuminated revolving turn table and stress was laid on "Meta-suds" formerly available only in bulk but now newly packaged in small lots for home use. Dr. Emil Lermy, 71-year-old authority on public sanitation, recently retired as advisor to the company, was on hand to renew old acquaintance and keep in touch with developments in restaurant sanitation.

Western Pa. Renderers Elect

The following officers were recently elected at the annual meeting of the Western Pennsylvania Renderers Association, Pittsburgh, for the com-

ing year: President, E. J. McGrael, S. Strunz & Son; vice-president, R. P. Thomas, Pittsburgh Melting Co., and secretary-treasurer, William T. Wormsley, Wm. H. Wormsley Co., all of Pittsburgh.

Natl. Chem. Show Sept. 10-14

Plans for the National Chemical Exposition, to be held at the Chicago Coliseum, Sept. 10 to 14, provide for a repeat presentation of the "Chemical Trail Blazers" exhibit which proved such a popular educational feature of the 1944 exposition. Entries are being invited for a display of the most outstanding contributions of new ideas, new discoveries, new developments and new applications in industrial chemical progress in the past two years. Detailed information can be obtained from the exposition office, 513 S. Wabash Ave., Chicago 5, Ill., or from the chairman of the "Trail Blazers" committee, Dr. James K. Stewart, care Sherwin Williams Co., 115th St., and Cottage Grove Ave., Chicago, 28. As in the past, the exposition is being sponsored by the Chicago section of the American Chemical Society.

MM&R Set Up Yale Fellowship

Establishment of a fellowship in the graduate department of Chemical Engineering at Yale University by the Northeastern Wood Utilization Council, and sponsored by Magnus, Mabey & Reynard, Inc., New York, was announced last month. Recipient of the two year fellowship is Edwin O. Guernsey, who will work under the direction of Dr. Barnett F. Dodge, head of the department of Chemical Engineering. The topic for investigation will be "Chlorophyll and Other Extractives from Green Plants and Leaves". The economic extraction of these materials for medicinal, deodorizing and food purposes will be studied.

Forms New Company

Formation of a new chemical manufacturing company to be known as Blue Grass Chemical Manufacturing Co., at 175 Bassett Ave., Lexington, Ky., was announced last month by Leon Freed, chief chemist. The new company will manufacture soaps and other chemical specialties.

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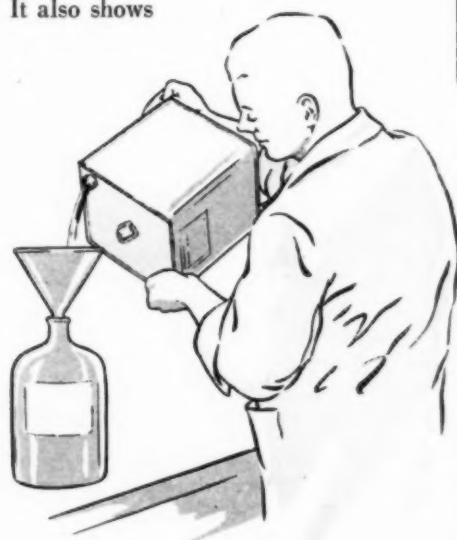
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Above, left and right, are B. S. Van Zile of Hercules Powder Co., Wilmington, and J. C. Harris, Monsanto Chemical Co., Dayton, Ohio, chairman and secretary, respectively, of Committee D-12 on Soaps and Detergents, A.S.T.M. The new officers were elected at the recent meeting of Committee D-12 in New York.

Accountants Hear Siddall, P & G

Kelly Y. Siddall, comptroller of Procter & Gamble Co., Cincinnati, addressed the St. Louis Chapter of the National Association of Cost Accountants, April 9, at the Coronado Hotel. Mr. Siddall's subject was: "Budgeting—A Case Study." Raymond E. Burlew, accountant for Monsanto Chemical Co., St. Louis, was chairman of the meeting, which was attended by 250 industrial accountants, public accountants, controllers and chief accounting officers in the greater St. Louis industrial area.

Ruedig Heads Chi. Drug Assn.

Dale F. Ruedig, associate director of sales for Eli Lilly & Co., has been elected president of the Chicago Drug and Chemical Association. Other officers are Joseph A. Gauer, of Fritzsche Bros., vice-president; Talmadge B. Tribble of Magnus, Mabee & Reynard, secretary, and John J. Walsh, of Walsh Laboratories, treasurer.

New Cowles Felt Detergent

A new special paper mill felt washing detergent called "Nu-Nap," was announced recently by Cowles Detergent Co., Cleveland. There are two grades of the new detergent: "Nu-Nap" for washing on the paper machine and "Nu-Nap Special" for use on or off the machine. It is claimed to be equally effective in either hard or soft water, washing clean, rinsing

freely and leaving felt soft and absorbent. Additional information concerning the new product may be obtained by writing the paper chemical division of the company at 7016 Euclid Ave., Cleveland 3.

New Pennsalt Spot Remover

The development of a new paint, oil and grease remover for use in laundry or wet cleaning operation was announced recently by Pennsylvania Salt Manufacturing Co., Philadelphia. The new product, "Erusto Solvent," it is claimed, can be completely removed by rinsing or washing in water. The company further claims that the new product will remove oil, grease, paint and other obstinate stains from fabrics. The product is packaged in one gallon cans.

Plan Toiletries Trade Show

The Chicago Associated Toiletries Salesmen are planning a trade exposition, to be held at the Palmer House, Chicago, Aug. 19 through Aug. 28. An entire floor of the hotel has been reserved for exhibitors and reservations are being received by Robert Edmonds, secretary of the group, at his office with the J. V. Pilcher Mfg. Co., 55 E. Washington St., Chicago. Mr. Edmonds is being assisted in promotion of the project by W. R. Tenney, of Lenthier, Inc., one of the original founders of the exposition which was suspended last year due to war-time conditions.

A.O.C.S. Program Set

Among the papers to be presented at the 27th annual meeting of the American Oil Chemists' Society, Roosevelt Hotel, New Orleans, May 15-17, announced recently are the following: "The Spectrophotometric Determination of Glycerol" by Laurence R. Whyte, Colgate-Palmolive-Peet Co., Kansas City, Kan.; "Diffraction Patterns of Two Crystalline Forms of Oleic Acid," by E. S. Lutton, Procter & Gamble Co., Ivorydale, O.; "Solvent Extraction of Oil Seeds," by W. H. Goss, Northern Regional Research Laboratories, Peoria, Ill.; "A New Approach to the Glyceride Structure of Natural Animal Fats," by K. F. Mattil and F. A. Norris, Swift & Co., Chicago; "Determination of Trisaturated Glycerides in Lard, Hydrogenated Lard and Tallow," by F. E. Luddy and R. W. Riemenschneider, Eastern Regional Laboratory, Philadelphia; "A New Series of Fat Soluble Fungistatic and Fungicidal Esters and an Interpretation of their Mode of Action Against Common and Pathogenic Molds," by S. W. Arenson and E. G. Heyl, Doughnut Corp. of America, Ellicott City, Md., and "The Countercurrent System in Soap Making," by William J. Govan, Jr., Wurster and Sanger, Inc., Chicago.

Reports of technical and administrative committees and of officers will be given at the annual meeting of the group, and new officers will be elected for the coming year. The customary golf tournament was to be held on May 16, and the annual dinner on the 17th.

Detrex Advances L. C. Kroes

L. C. Kroes, manager of the Michigan division of Detrex Corp., Detroit, has been appointed manager of central regional sales, the company announced April 16. He has been with Detrex since 1937, serving as a representative in the eastern region for three years until he returned to manage the Michigan division. Mr. Kroes is a graduate of the University of Michigan and is a member of the American Electroplaters Society. His headquarters will be in Detroit.

Dahle Joins Bristol-Myers

Dr. Dan Dahle, former U. S. Food and Drug Administration official, has been appointed research director at the Hillside, N. J., plant of Bristol-Myers Co., New York, the company announced late last month. He had been connected with the Food and Drug Administration for 18 years before resigning to become associated with Bristol-Myers. He is a graduate of Chalmers Institute of Technology, Gothenburg, Sweden, and American University, Washington, D. C. He entered government service in 1928 as chief chemist at the Savannah, Ga., laboratory after having been assistant state chemist in Florida for four years. He transferred to the Washington, D. C., laboratory as research chemist in 1932 and for the past eight years has been head of the cosmetic division.

A. E. Bailey Joins Girdler

Alton E. Bailey, well known authority on processing of edible fats and oils and author of "Industrial Oil and Fat Products," has joined the technical staff of the Votator division of Girdler Corp., Louisville, Ky. He heads one of the division's important research and engineering groups, specializing in the development and improvement of processes and products in the edible fats and oil field. A native of Midland, Tex., and a graduate with a B.S. degree in Chemical engineering of the University of Mexico, Mr. Bailey began his career in the Omaha laboratories of Cudahy Packing Co. in 1929. From 1941 until he resigned to take his new post, he was engaged in research in the edible fats and oil field in the Southern Regional Research Laboratory of the C.S.D.A. in New Orleans.

Brooks Resigns From Coty

Herman L. Brooks, president of Coty, Inc., New York, resigned from the post, it was announced recently. Mr. Brooks, who is also president of the Toilet Goods Association, will not stand for reelection of that group after having been president since its organization ten years ago. However, the TGA has named Mr. Brooks honorary chairman of the association's board of direc-

tors for as long as he remains a board member. His future plans are unannounced as yet.

Herman Jergens, 88, Dies

Herman Jergens, 88, co-founder of Andrew Jergens Co., Cincinnati, died there April 29. He came to the United States from Denmark in 1861 and with his brother, the late Andrew Jergens, founded Andrew Jergens Co.

Armour Employee Killed

Joseph Klein, an employee of the Armour Soap Works, Chicago, died April 7 from injuries suffered when a kettle of raw soap boiled over, according to police reports.

Fanning Leaves Malmstrom

Frank G. Fanning, affiliated with N. I. Malmstrom & Co., Brooklyn, for the past 26 years, recently resigned as junior partner and sales manager. Mr. Fanning's future plans are unannounced as yet.

New Cleaners at Medical Show

Protective and preventive products for treating occupational skin diseases were displayed by four sanitary chemical manufacturers at the 31st annual meeting of the American Association of Industrial Physicians and Surgeons and allied medical groups in Chicago, April 7 to 13.

John H. Breck, Inc., manufacturing chemists, Springfield, Mass., presented their new line which includes "Breck's" hand cleaner, "Breck's pH 7" protective cream, a water resistant cream and a work cream. The company, which manufactures beauty shop products, started production of these industrial creams for control of dermatitis during the war, Lester L. Brossard, Chicago district representative, stated and, finding a ready consumer acceptance, is planning an extensive post-war promotion through national advertising.

Stepan Chemical Co., Chicago, presented their "pH 6" sulfonated oil skin cleaner with on-the-spot demonstrations in a large industrial wash fountain. A. C. Stepan, Jr., president

New Alrose Detergent

Alrose Chemical Co., Cranston, R. I., is currently distributing a two-page technical bulletin on its new "Alrosene PD" synthetic detergent. Recommended for household and textile uses, the new detergent is claimed to have unusual lime resistance properties, permitting its use in sea water. Among the suggested uses for the new detergent are: dishwashing, laundering, upholstery and rug shampoo, general household cleaning and for bath use. It may also be used for a number of industrial applications.

D.C.A.T. Luncheon May 22

The Spring Luncheon meeting of the Drug, Chemical and Allied Trades Section of the New York Board of Trade will be held Wednesday, May 22, in the Georgian Room of the Hotel Pennsylvania, at 12:30 p.m. Carson Gray Frailey, D.C.A.T. Washington representative, will discuss "Unification of Food, Drug and Cosmetic Laws and Regulations."

of the company, whose principal products are sulfonated oils for industrial processes, was in charge of the presentation.

West Disinfecting Co., Long Island City, N. Y., displayed its complete line of personal safeguards against occupational skin diseases, with emphasis on "Lan-O-Kleen," a lanolin superfatted cornmeal scrubber and "Sulpho," hand cleaner, a sulfonated castor oil liquid cleaner. Other sanitation products from the company's general line were also shown. Wm. Flotow, advertising manager, came out from eastern headquarters to assist Glen Buerki, Chicago territory manager, at the booth.

G. H. Packwood Mfg. Co., St. Louis, showed their "Pax" line of six types of skin cleaners, including "Pax-lanosav," heavy duty granulated cleanser, and "Pax" sulfonated oil skin cleanser. Also displayed was the company's chromium plated soap dispenser and a Hecto-ink remover for office workers' hands. Marion S. Gravely, general sales manager, St. Louis, in charge, assisted by field representatives from nearby territories.

Gillam to Run For Congress

Earnest O. Gillam, head of Gillam Soap Works, Fort Worth, Tex., has announced his candidacy for Con-



E. O. GILLAM

gress from the twelfth district of Texas to succeed the Hon. Fritz C. Lanham, who is retiring. This is the first time Mr. Gillam has ever run for public office, although he has been active in politics for a good many years. He is an active exponent of release of industry from unnecessary government restrictions and a return to a free economy. In 1931, he took over the old Chemical Products Co. in Fort Worth, reorganized it under its present name and developed it into a modern soap making plant. Mr. Gillam will be 62 years old on July 24.

Babbitt Building in Chicago

B. T. Babbitt, Inc., manufacturers of sanitary cleaning compounds, is erecting a plant at 6235 W. 65th St., Chicago, to be used as its western manufacturing headquarters.

Wyandotte Advances Burchfield

Transfer of Dr. Paul Burchfield to the technical service department of Wyandotte Chemicals Corp., Wyandotte, Mich., and his appointment as assistant director, were announced by the company last month. He has been assistant supervisor of the chemical engineering section of the company's research departments since 1942. After receiving his doctor's degree from Western Reserve University in 1934, he was with Harshaw Chemical Co., Cleveland, for four years. From

1938 to 1942 Dr. Burchfield was research engineer for United Gas Improvement Co. In his new post he assists Charles S. Johnson, director of technical service, who has been with the company since 1907.

T.G.A. Meets May 15-17

Highlights of the three-day annual meeting of the Toilet Goods Association, to be held Wednesday, Thursday and Friday, May 15, 16 and 17, at the Waldorf-Astoria Hotel, New York, include a symposium on essential oils and aromatic chemicals, and discussions of such raw material shortages as fats and oils, as well as talks on scientific developments. Participating in the Wednesday morning, May 15, round table discussion of perfuming materials will be: Joseph M. Huisking, Fritzsche Bros., Inc.; Francis T. Dodge, Dodge & Olcott Co.; R. M. Stevenson, Givaudan-Delawanna, Inc., and A. L. van Ameringen, van Ameringen-Haebler, Inc., all of New York. Stephen L. Mayham, executive vice-president of the association will preside. The Scientific Research and Standards report will be presented on the afternoon of Wednesday, May 15. At the Friday session, a paper on "A New Method of Analysis of Glycerin and Glycol Fatty Esters" by A. Troy and A. C. Bell, research and analytical chemist, respectively, Colgate-Palmolive-Peet Co., Jersey City, N. J., was presented. N. N. Dalton of the Association of American Soap & Glycerine Producers, was to speak on the fats and oils shortage.

List C.P.S. & E. A. Golf Sites

The Chicago Perfumery, Soap & Extract Association will hold five golf tournaments during the coming season, it was announced April 12. Although no dates have been announced by the Association as yet, the group will join the Chicago Drug and Chemical Association in an outing at Midlothian Country Club, May 21. Clubs where the Chicago Perfumery, Soap & Extract Association expects to hold tournaments include: Skycrest, Olympia Fields, Medinah and Rolling Green.

Reception for Andre Firmenich

A reception in honor of Andre Firmenich of Firmenich et Cie., Geneva, Switzerland, was given by Rupert



ANDRE FIRMENICH

Watson, manager of the New York branch of the company, Firmenich & Co., at the Gramercy Park Hotel, New York, May 2. Mr. Firmenich, who was on his first visit to the United States since 1941, flew back to Switzerland May 5. Mr. Firmenich indicated that while his concern is still faced with some difficulty in obtaining adequate supplies of raw materials, the manufacture of perfuming materials in Switzerland is rapidly approaching a normal basis once more. Firmenich was one of the few European houses able to maintain uninterrupted deliveries of perfuming materials to the United States through the war years. They shipped for a time from the Italian port of Genoa, and after this exit was closed were able to devise means of transit across France, Spain and Portugal for exit from the port of Lisbon. The company's creative work, under the direction of Dr. Roger Firmenich, continued through the war years, and an important development, a synthetic civetone said to be identical in performance with natural civetone, will appear on the American market in the fall.

New Nielco Acid Cleaner

Nielco Laboratories, Detroit, announced May 2 the issuance of a new data sheet on "Nielco 1931-M," a new acid cleaner for stone, glass, asbestos shingles, etc.

Resinoid Benzoin Synthetic 3521

by



Scientifically synthesized —
replaces high quality Siam
material on a more econo-
mical basis

•

100% soluble—leaves no residue

SCHIMMEL & CO., INC.
601 WEST 26TH STREET
NEW YORK 1, N. Y.

The following trade-marks were published in the April issues of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

Trade Mark Applications

CINCH—This in upper case, extra bold, jumbo letters for glass cleaner. Filed Oct. 22, 1945 by Oceanic Chemical Co., Seattle. Claims use since Oct. 5, 1945.

DIRECTOIRE — This in upper case, extra bold letters for toilet soap. Filed Oct. 30, 1945 by Charles of the Ritz, Inc., New York. Claims use since Oct. 26, 1945.

BOILER MASTER—This in upper and lower case, extra bold, black letters for boiler scale preventive and remover. Filed July 31, 1945 by Le-Mont Manufacturing Co., Los Angeles. Claims use since 1935.

ELASTI-CURL—This in upper and lower case, bold, script letters for shampoo. Filed Aug. 25, 1945 by National Mineral Co., Chicago. Claims use since Aug. 18, 1945.

CORODEX—This in lower case, reverse letters on a lined background for chemical rust remover. Filed Oct. 10, 1945 by Allied Products Co., Chicago. Claims use since Feb. 28, 1945.

DERMOLATE — This in upper case, reverse letters on a solid black background in the form of a rectangle that runs uphill from left to right for skin detergent. Filed Nov. 5, 1945 by National Oil Products Co., Harrison, N. J. Claims use since Aug. 29, 1944.

NO-SECTS—This in upper case, extra bold letters for liquid and powder insecticides and insect repellents. Filed Oct. 25, 1945 by Associated Products, Inc., Chicago. Claims us since Sept. 19, 1945.

BLACK-OUT—This in upper and lower case, bold, script letters for in-

secticide. Filed Nov. 29, 1945 by Miami Products & Chemical Co., Dayton, O. Claims use since Oct. 2, 1945.

ATTACLAY—This in upper case, bold letters for insecticide carrier or diluent. Filed April 14, 1945 by Attapulgas Clay Co., Wilmington, Del. Claims use since Feb. 23, 1945.

TOP-HAT—This in lower case, bold, script letters within a circular design and above a drawing of a top hat, cane and gloves for shaving soap. Filed Mar. 15, 1945 by Charles M. Burt, Biloxi, Miss. Claims use since Sept. 22, 1945.

TARGET—This in upper and lower case, extra black, bold script letters across a target-like background for washing compounds. Filed Aug. 21, 1945 by Chemical Manufacturing & Distributing Co., Easton, Pa. Claims use since Apr. 1, 1939.

RASUROL—This in upper case, bold letters for shaving cream. Filed Nov. 9, 1945 by Alfred A. Flaster, New York. Claims use since Aug. 1, 1944.

SPUR—This in upper case, extra bold, black letters for toilet soaps. Filed Nov. 10, 1945 by Charles of the Ritz, Inc., New York. Claims use since Nov. 7, 1945.

QAC—This in upper case, extra bold, black letters for sterilizing material. Filed Sept. 24, 1945 by Walter S. Bachman, Los Angeles. Claims use since July 2, 1945.

QAC—This in upper case, bold letters on either end of which is the drawing of a duck for sterilizing material. Filed Sept. 24, 1945 by Walter S. Bachman, Los Angeles. Claims use since July 2, 1945.

BUBALOON—This in upper case, bold letters for liquid solution for blowing bubbles. Filed Oct. 29, 1945 by Lillian D. Rock, New York. Claims use since Sept. 25, 1945.

Dis—This in upper case, bold letters for general disinfectant. Filed Nov. 2, 1945 by David D. Catts, Long Island City, N. Y. Claims use since Oct. 16, 1945.

SULFOWL—This in upper case letters for antibacterial preparation. Filed Nov. 2, 1945 by Sharp & Dohme, Inc., Philadelphia. Claims use since Oct. 1, 1945.

ATOMIC — This in upper case, large and small, open letters for insecticide materials. Filed Dec. 3, 1945, by Lystad & Redick, East Grand Forks, Minn. Claims use since Aug. 10, 1945.

INDEED—This in upper case, extra bold, black letters for shampoo. Filed Dec. 4, 1945 by Ernst Peritz, New York. Claims use since Mar. 1, 1945.

FRAME—This in upper case, extra bold, black letters for shampoo. Filed Dec. 4, 1945 by Ernst Peritz, New York. Claims use since Mar. 1, 1945.

N-I-U — This in upper case, extra bold, black letters for insecticide. Filed Jan. 17, 1945 by Griffith Laboratories, Inc., Chicago. Claims use since Dec. 17, 1945.

BEAR BRAND — This in upper case, extra bold letters for silver polish. Filed June 4, 1945 by Dohrmann Hotel Supply Co., San Francisco. Claims use since June 1, 1945.

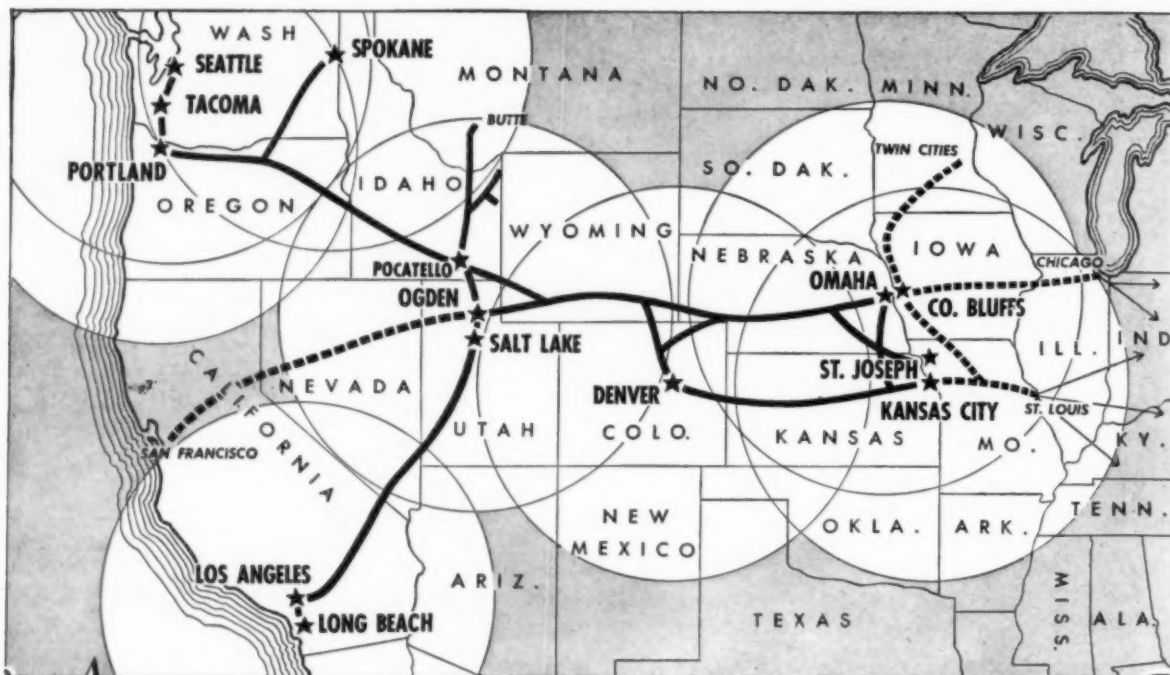
GOLDEN ARROW—This in upper case letters surrounding the fanciful drawing of a woman dressed as an ancient with a bow in her hand for shaving cream and bath soaps. Filed Oct. 31, 1945 by Golden Arrow Toiletries, New York. Claims use since Sept. 11, 1944.

MOTHER'S WHITE WASH—This in extra bold, black, upper case letters for washing compound. Filed May 16, 1944 by No-Boil Fluid Chemical Co., Jamestown, N. Y. Claims use since Nov. 21, 1933.

EXHILARATION—This in upper case, bold letters for shampoo. Filed June 11, 1945 by Henry W. Miller, Glendale, Calif. Claims use since May 29, 1945.

ATOMIC SPRAY—This in upper case, extra bold, black letters for insecticides. Filed Aug. 24, 1945 by Continental Distributors, Inc., Washington, D. C. Claims use since Aug. 16, 1945.

ATO-Mic—This in upper case, oversize, extra bold, black letters for insecticides. Filed Sept. 17, 1945 by



Opportunity for Industry

The western territory served by Union Pacific is rich in countless raw materials required by industry; has power and other necessary facilities; has a high type of native-born labor. Here lies the opportunity for industry to build and expand.

Among the principal industrial tracts owned or served by Union Pacific are those located in, or near by, the following cities:

Omaha, Neb.	Ogden, Utah
Council Bluffs, Iowa	Portland, Oregon
St. Joseph, Mo.	Seattle, Wash.
Kansas City, Mo.-Kans.	Tacoma, Wash.
(Fairfax District)	Spokane, Wash.
Denver, Colo.	Los Angeles, Cal.
Salt Lake City, Utah	Long Beach, Cal.

As the map shows, all these cities are located on the main lines of the Union Pacific Railroad.

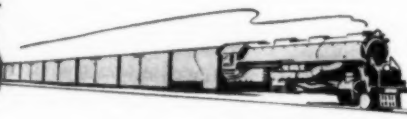
The circles on the map indicate 500-mile distribution areas. In normal times, Union Pacific operates a fast, merchandise freight (L. C. L.) service within these short-haul areas, with door-to-door pick up and delivery service.

These industrial properties are improved and occupied by many diversified manufacturing and commercial enterprises.

Necessary utilities are available and each tract is served by adequate industrial trackage. Whenever required, additional trackage can be provided.

You are cordially invited to write W. H. HULSIZER, General Manager of Properties, Union Pacific Railroad, Omaha 2, Nebraska, regarding industrial districts in territory served by Union Pacific.

be Specific -
say "Union Pacific"



The Progressive

UNION PACIFIC RAILROAD

The Strategic Middle Route

X-Press Chemical Co., Brooklyn, N. Y. Claims use since Aug. 14, 1945.

SPRAYGRANCE — This in upper case, bold, stencil letters for liquid deodorant. Filed Sept. 20, 1945 by the Selig Co., Atlanta, Ga. Claims use since Nov. 1, 1944.

PYRENONE — This in upper case, bold letters for insecticides. Filed Nov. 14, 1945 by Dodge & Olcott, Inc., New York. Claims use since Feb. 27, 1945.

MORTEX—This in upper case, bold letters for shampoo and parasiticide. Filed Dec. 11, 1945 by Metropolitan Chemical Co., Albany, N. Y. Claims use since Sept. 1, 1944.

Trade Marks Granted

418,871. Liquid wax and polish for floors, furniture, etc. Filed by DaMar Chemical Products Co., Bridgewater, Mass., Sept. 18, 1944. Serial No. 474,318. Published Apr. 10, 1945. Class 16.

418,875. Detergent compound. Filed by Refined Products Co., Lyndhurst, N. J., Oct. 18, 1944. Serial No. 475,463. Published Nov. 6, 1945. Class 6.

418,907. Floor wax. Filed by Twin City Shellac Co., Brooklyn, Apr. 9, 1945. Serial No. 481,927. Published Oct. 16, 1945. Class 16.

418,918. Oil shampoo. Filed by C. E. Hoffman Co., Dallas, Apr. 27, 1945. Serial No. 482,679. Published Oct. 30, 1945. Class 6.

418,923. Cleaner and polish for leather articles. Filed by Knomark Manufacturing Co., Brooklyn, May 7, 1945. Serial No. 483,065. Published Oct. 23, 1945. Class 4.

418,924. Cleaner and polish for leather articles. Filed by Knomark Manufacturing Co., Brooklyn, May 7, 1945. Serial No. 483,066. Published Oct. 23, 1945. Class 4.

418,925. Shampoo. Filed by Metropolitan Chemical Corp., Albany, May 11, 1945. Serial No. 483,230. Published Nov. 6, 1945. Class 6.

418,932. Hand cleanser. Filed by Rose Dew Products Co., Los Angeles, May 15, 1945. Serial No. 483,386. Published Oct. 23, 1945. Class 4.

418,936. Brushless shave cream, shaving soap and shaving sticks. Filed

by Irene Blake Cosmetics, Inc., New York, June 2, 1945. Serial No. 484,-

418,939. Soap compound. Filed by Legrand Chemical Co., Brooklyn, 081. Published Oct. 16, 1945. Class 4. June 6, 1945. Serial No. 484,206. Published Oct. 23, 1945. Class 4.

418,940. Insecticides. Filed by Consolidated Exterminators, Inc., New York, June 7, 1945. Serial No. 484,-248. Published Nov. 6, 1945. Class 6.

418,952. Insecticides and fungicides. Filed by Sherwin-Williams Co., Cleveland. June 22, 1945. Serial No. 484,912. Published Nov. 6, 1945. Class 6.

418,960. Floor wax. Filed by Purity Dance Wax Co., Sedalia, Mo., June 27, 1945. Serial No. 485,072. Published Oct. 16, 1945. Class 16.

418,969. Shampoo. Filed by Associated Products, Inc., Chicago, June 29, 1945. Serial No. 485,189. Published Oct. 30, 1945. Class 6.

418,995. Insecticide-fungicide. Filed by McConnon & Co., Winona, Minn., July 12, 1945. Serial No. 485,-732. Published Nov. 6, 1945. Class 6.

418,562. Agricultural fungicide. Filed by Onyx Oil & Chemical Co., Jersey City, N. J., June 22, 1945. Serial No. 484,854. Published Oct. 16, 1945. Class 6.

419,104. Shoe polish. Filed by Rit Products Corp., Chicago, Mar. 1, 1945. Serial No. 480,387. Published Nov. 6, 1945. Class 4.

419,106. Shaving Cream. Filed by Bristol-Myers Co., New York, March 7, 1945. Serial No. 480,559. Published Nov. 13, 1945. Class 4.

419,122. Washing and cleaning compound. Filed by Sutho Suds Co., Indianapolis, April 25, 1945. Serial No. 482,597. Published Oct. 30, 1945. Class 4.

419,130. Soap. Filed by Great Stuff Products Corp., Chicago, Apr. 30, 1945. Serial No. 482,799. Published Nov. 6, 1945. Class 4.

419,131. Detergent for removing grease, oil, dirt, etc., from metals. Filed by Sofna Products, Inc., New York, May 2, 1945. Serial No. 482,-897. Published Nov. 13, 1945. Class 4.

419,141. Floor wax. Filed by G. E. Specialty Co., Brooklyn, May

18, 1945. Serial No. 483,523. Published Nov. 13, 1945. Class 16.

419,152. Cleaning compounds for general use. Filed by Scientific Supply Co., Denver, June 8, 1945. Serial No. 484,324. Published Nov. 6, 1945. Class 4.

419,154. Skunk extract for rodent repellent. Filed by William B. Ward Co., Kansas City, Mo., June 11, 1945. Serial No. 484,433. Published Nov. 13, 1945. Class 6.

419,188. Soap. Filed by John T. Stanley Co., New York, July 7, 1945. Serial No. 484,549. Published Nov. 6, 1945. Class 4.

419,328. Type cleaning fluid and typewriter platen surface cleaner. Filed by System Service Co., Paterson, N. J., May 2, 1945. Serial No. 482,-902. Published Nov. 20, 1945. Class 4.

419,356. Cleaning preparation for diapers. Filed by Allied Salt & Chemical Co., Boston, June 23, 1945. Serial No. 484,933. Published Nov. 20, 1945. Class 4.

419,457. Insect spray. Filed by R. M. Hollingshead Corp., Camden, N. J., July 26, 1944. Serial No. 472,640. Published Dec. 4, 1945. Class 6.

419,459. Antiseptic and disinfectant. Filed by William R. Warner & Co., New York, Aug. 10, 1944. Serial No. 473,166. Published Dec. 4, 1945. Class 6.

419,468. Antiseptic, disinfectant, deodorant and cleanser. Filed by Koppers Co., Inc., Kearney, N. J., Dec. 23, 1944. Serial No. 477,890. Published Nov. 27, 1945. Class 6.

419,478. Solution for mildew-proofing and mothproofing textiles, etc. Filed by Herbert J. Heribert, New York, Apr. 6, 1945. Serial No. 481,787. Published Nov. 27, 1945. Class 6.

419,486. Insecticide. Filed by Georgia-Carolina Oil Co., Macon, Ga., May 11, 1945. Serial No. 483,224. Published Aug. 28, 1945. Class 6.

419,499. Shampoo. Filed by Primrose House, Inc., New York, June 26, 1945. Serial No. 485,057. Published Nov. 27, 1945. Class 6.

419,511. Air disinfectants. Filed by George W. Fleischman, Long Beach, Calif., July 23, 1945. Serial
(Turn to Page 87)

announcing a new DOW specialty—

C-64

... TO WEAVE RICH PATTERNS IN FRAGRANCE !

Dow presents to the perfumer an attractive new specialty, C-64 . . . ready to add a note of opulence to many formulations for perfumes, soaps, cosmetics. C-64 possesses a powerful, spicy odor with a slightly minty touch, somewhat suggestive of patchouli oil. Blenders will find it extremely valuable for all types of oriental perfumes. It is also excellently adapted to the preparation of colognes and for inclusion in soaps and cosmetics.

A very stable, crystalline material, C-64 blends well with citrus oils and dissolves in alcohol, even when diluted. In purity and uniformity, it conforms to Dow's traditionally high standards. Write to us on your company letterhead for working sample and full details.

DOW AROMATIC PRODUCTS: Coumarin, Cyclohexene, Diphenyl Oxide, Diphenyl Methane, Gardanthrol, Indol, Methyl Anthranilate, Methyl Phenyl Carbinyl Acetate, Methyl Salicylate, Palatone, Phenyl Ethyl Acetate, Phenyl Ethyl Alcohol, Styrene P-100, Sylvenol, and others—

THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN
New York • Boston • Philadelphia • Washington • Cleveland • Detroit • Chicago • St. Louis
Houston • San Francisco • Los Angeles • Seattle

Synthetic
AROMATIC
Chemicals



CHEMICALS
INDISPENSABLE TO INDUSTRY

BIDS AND AWARDS

Treasury Soap Paste Bids

In a recent opening for miscellaneous supplies by the Treasury Department, Procurement division, Washington, D. C., the following bids were received on 15,840 lbs. soap paste: Cadet Laboratories, Worcester, Mass., 14 cents a pound; Flash Chemical Co., Cambridge, Mass., 5 cents a pound; R. M. Hollingshead Corp., Camden, N. J., 6.5 cents a pound; Mione Mfg. Co., Collingdale, Pa., 4.88 cents a pound; Wm. Messer Corp., New York, 6.35 cents a pound; Capital City Cleaner Co., Washington, D. C., 11.5 cents a pound in 2½ pound cans; and Utility Co., New York, 4.8 cents a pound.

Detergent Award to MacKensie

MacKensie Laboratories, Chester, Pa., received the award on 7,200 pounds of special detergent in a recent opening for miscellaneous supplies by the Freedman's Hospital, Washington, D. C. The MacKensie bid was 8 cents a pound.

N. Y. Navy Misc. Bids

Among the bids received in a recent opening for miscellaneous supplies by the New York Navy Purchasing Office, New York, were those on: (1) 88,433 tins of toilet bowl cleaning compound, R. M. Hollingshead Corp., Camden, N. J., 9.7 cents per 20-ounce can; Turco Products, Inc., Los Angeles, 11 cents per 22-ounce can; (2) 272,717 pounds dishwashing compound, MacKensie Labs., Chester, Pa., 5.75 cents a pound; B. P. Ducas Co., Jersey City, N. J., 5.35 cents a pound; (3) 583,313 pounds of scouring compound, Chemical Manufacturing & Distributing Co., Easton, Pa., 2.74 cents a pound; Industrial Distributors, New York, 4.8 cents; (4) 1,000 gallons of disinfectant, germicide and fungicide, including measuring device, Lehn & Fink Products Corp., Bloomfield, N. J., \$1.35 a gallon; Fine Organics, New York, \$2.76 a gallon; Winthrop Chemical Co., New York,

\$4.40 a gallon; Fuld Bros., Baltimore, \$3.35 a gallon and Onyx Oil & Chemical Co., Jersey City, N. J., \$4.08 a gallon, alternate bid of \$7.40 a gallon (10 times standard strength); and (5) 315,473 cans of liquid metal polish, J. L. Prescott Co., Passaic, N. J., 7.45 cents each; R. M. Hollingshead Corp., Camden, N. J., 7.85 cents each; Solarine Co., Baltimore, 9 cents each.

Misc. Agriculture Bids

Geigy Co., New York, submitted the only bid—\$96—on 200 pounds of DDT in a recent opening for miscellaneous supplies by the Division of Purchase, Sales and Traffic, U. S. Department of Agriculture, Washington, D. C. In the same opening the following bids were received on 36 barrels of sweeping compound: N. Brittingham & Sons, Philadelphia, \$8.03 a barrel; Joseph E. Frankle Co., Philadelphia, \$8; M. J. Gensberg & Son, Washington, D. C., \$8.50; Lasting Products Co., Baltimore, \$11.98 per 300 pound container; Mathers-Lamm Paper Co., Washington, D. C., \$8; Paxson Mfg. Co., Philadelphia, \$7.30 and Sweeping Compound Mfgs. of New York, New York, \$216 total.

Interior Dept. DDT Bids

The following bids were received on 1,000 pounds of technical DDT in a recent opening for miscellaneous supplies by the purchasing office of the Department of the Interior, Washington, D. C.: Monsanto Chemical Co., St. Louis, 50.52 cents a pound; Merck & Co., Rahway, N. J., 51 cents and Joseph E. Frankle Co., Philadelphia, 54 cents.

Agriculture Dept. Soap Awards

The following awards on laundry soap were announced in connection with recent special purchases by the Department of Agriculture, Production and Marketing Administration, Washington, D. C., for shipment under Lend-Lease, for U. S. territorial needs, UNRRA, etc.; Colgate-Palm-

olive-Peet Co., Jersey City, N. J., 6,000,000 pounds at 6.2 cents a pound and Kirkman & Son division, Colgate-Palmolive-Peet Co., Brooklyn, N. Y., 10,500,000 pounds at 6.25 cents a pound.

FWA Liquid Soap Bids

Among the bids submitted on 5,500 gallons of liquid soap in a recent opening for miscellaneous supplies by the Federal Works Agency, Public Buildings Administration, Office of Buildings Management, Washington, D. C., were those of: James Good Co., Philadelphia, 540 gallons only, 42 cents a gallon; Crystal Soap & Chemical Co., Philadelphia, 26 cents; Peck's Products Co., St. Louis, 27 cents; R. M. Hollingshead Corp., Camden, N. J., 34 cents; Wm. Messer Corp., New York, 38.3 cents; Joseph E. Frankle Co., Philadelphia, 43 cents; N. Brittingham & Son, Philadelphia, 49.9 cents, including drums, and Lanair Chemical Corp., Chicago, 36.9 cents.

Hand Cream Cleaner Bids

The following bids were received on 4,800 containers of hand cream cleaner: Autocopy, Inc., Chicago, 25 cents each; Cadet Laboratories, Worcester, Mass., 23 cents; Ditto, Inc., Washington, D. C., 30 cents; Duplicating Papers, Inc., New York, 30 cents; Guardian Chemical Co., Detroit, 40 cents; Kraymer Mfg. Co., Elizabeth, N. J., 29.95 cents each; MacIntosh & Sheridan, Washington, 55 cents each; Millburn Co., Detroit, 31.25 cents; G. H. Packwood Mfg. Co., St. Louis, 30 cents a pound; Potomac Products Co., Washington, 27 cents each; Wilco, Washington, D. C., 30 cents, and L. C. Smith & Corona Typewriters, Washington, 39 cents.

Oxygen-Absorption Method

Specially designed apparatus and procedure are described for testing fats by the oxygen-absorption method. These were developed to reduce the labor required for testing numerous samples. Over a period of years they have given useful service. E. W. Eckey. *Oil & Soap* 23, 38-40 (1946).

*In a pinch,
we could do it*



Perhaps our artist is a bit enthusiastic about the versatility of Westvaco Cleaning Compounds. But, conversely our contributions to the soap, detergent and dry cleaning industries are generally just as greatly *underestimated*.

You, perhaps, will be surprised to learn that WESTVACO

- ...was America's first producer of TSP and TSPP
- ...was for 17 years America's sole producer of Acid Sodium Pyrophosphate.
- ...is also an important producer of fifteen other types and forms of phosphates
- ...is a principal supplier of alkalies to leading soap companies and a trusted source of supply of many well-known detergent mixtures, water softeners and cleaning specialties.
- ...supplies all three widely-used dry-cleaning solvents and originated one of the largest-selling chemical solvent-clarifiers.
- ...is an important producer of specialties for solvent degreasing (TROMEX)*, water-conditioning (REMOSIL)* and disinfectant-bactericidal applications (FOSKLOR)*

Yes, with notably few exceptions, WESTVACO CHEMICALS play a part in many types of domestic and industrial cleaning.

We will welcome your inquiry for information on the present availability of all of our chemicals and will do our best to cooperate with you.

*TMReg. U.S. Pat. Off.



WESTVACO CHLORINE PRODUCTS CORPORATION

405 LEXINGTON AVENUE, NEW YORK 17, N. Y.
CHICAGO, ILL. GREENVILLE, S. C. NEWARK, CALIF.

As of May 7, 1946

THE 36-day-old coal strike, with its paralyzing effect on the soap and sanitary chemicals industries, and almost all other economic life in the United States as well, completely dominates the market news this month. With coal tar chemical production reliably reported to be down by one-third several days before this writing, and with no sign of a settlement in the offing the situation is unmistakably grave. It not only affects the supply of raw materials used in the production of soap and sanitary chemicals, but also power for the plants where they are produced, the availability of metal in which to pack them and transportation to carry them to market.

In the case of soap, the stoppage of production of coal tar chemi-

cals strikes a blow at supplies of perfuming materials, and caustic soda and soda ash. This hurts more than ever at this particular time because of the dearth of natural essential oils and flower oils from abroad, and because of the greatly increased demand for aromatics for soaps, etc. Several alkali plants are reported to have closed down due to the coal shortage.

Insecticides, disinfectants, antiseptics, wood preservatives, etc. relying heavily on the by-products of the coking operation feel any interruption in the supply of coal almost immediately. Nor can the shortages be overcome as soon as coal production is resumed. Faced with a backlog of orders since shortly after we shifted to a war-time economy, coal tar chemical producers were not able to catch up with back orders even before the

present strike. In spite of a tapering off of demands for coal tar chemicals on the part of the military with the ending of hostilities, the civilian industries demand took up where the military had left off and expanded even beyond the most optimistic dreams.

On another front, that of fats and oils, the world shortage continues almost unabated. In their own small way the Philippines seem to be working to alleviate the shortage as well as can be expected. Copra Export Management Co., Washington, D. C., the procurement agency for the Commodity Credit Corp. for copra in the Philippine Islands, has just announced that exports of copra from the Philippines in April amounted to 24,179 long tons, as compared with 13,332 long tons for March and 11,788 long tons for February. In Janu-

ACKNOWLEDGED HIGHEST QUALITIES

STEARIC ACID

RED OIL

(OLEIC ACID)

WHITE OLEINE U. S. P.

TALLOW FATTY ACIDS

88% GLYCERINE

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SMEAD & SMALL, INC., CLEVELAND 15, O.
MORELAND CHEMICAL CO., INC.,
SPARTANBURG, S. C.

CADILLAC CHEMICAL CO., DETROIT, MICH.
BRAUN CORP., LOS ANGELES 21, CAL.
BRAUN-KNECHT-HEIMANN CO.,
SAN FRANCISCO 19, CAL.

SYNTHETIC ORGANIC DETERGENTS

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ARE STANDARD FOR ALL INDUSTRIES

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EXTRA-EXTRA!!
WAR DECLARED
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RATS

PETRA

*The Poison Gas
all Rodents
fear.
Puts them on
the run.*

*Get into
the Fight*

SPARKHAWK
Company
P. W. SPARKILL
New York

**The Bomb Squad
is on the
MARCH**

*The Atom-Iser Brigade
Spear-heads the Attack*

ary, 8,342 long tons of copra were exported from the Philippines. In making this announcement, Copra Export Management Co. stated that all except 4,902 long tons of the April total, which was shipped to Italy for account of UNRRA, was exported to the United States.

Meanwhile, On April 23, the U. S. Department of Agriculture's Production and Marketing Administration, Fats and Oils Branch, announced to soap makers that future releases of coconut oil will be made when the oil is available for the companies who are entitled to allotments, rather than allotting it on a strictly quarterly basis. Since the liquidation of Government stocks of high lauric acid oils, the releases for the subsequent quarters are being handled according to a revised procedure and some confusion apparently exists in the minds of consumers as to the method being used, the Fats and Oils Branch states. Originally, it was thought that the soap maker could obtain in subsequent quarters the amount of high lauric acid oils to

which he was entitled and received in the first quarter. In its letter of Jan. 14, 1946, the Department of Agriculture stated that the oil allotted at that time could be used during any period the soaper chose, rather than in a specific quarter as had been the practice previously. This, apparently, led to confusion so the U.S.D.A. issued its letter of April 23 to clarify the situation. Release of coconut oil could be made at the beginning or at any time during a quarter, the letter explains.

Another oil development announced in April was the announcement by the U. S. Department of Agriculture of the continuation through June 30, 1946 of the suspension of restrictions on deliveries of crude cottonseed, peanut, soybean and corn oils to refiners for refining purposes, under War Food Order 29. Previously, the suspension had been continued through March 31, 1946. Authorization for delivery of these four crude oils to all other users, however, will continue to be obtained from the Fats and Oils branch of the Pro-

duction and Marketing Administration.

World supplies of fats and oils will remain short of demand this year and probably next. All recent reports indicate that recovery of exports from the Far East and production of animal fats in Europe will be gradual. Preliminary indications are that Antarctic whale-oil production in the current season is less than one-third of prewar. In Europe, the grain crisis will prevent any increase in animal-fat output this year.

In discussing the market on aromatic chemicals in the April issue of the *Givaudanian*, house organ of Givaudan-Delawanna, Inc., New York, the difficulties confronting the French essential oil industry are described as follows: "In addition to lacking solvents, fats and all other materials needed in the flower oil industry, the people of Grasse find that their soil is in extremely bad condition due to the lack of proper fertilizer during the last five or six seasons. The outlook, therefore, is for continued shortages and continued high prices for the 1946 harvest."

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SYNTHETIC DETERGENT

(Alkyl Aryl Sulphonate)

(Low Alkalinity—High Percentage Active Ingredient)

Specific Gravity—One (Approximately 10 times as bulky as soda ash.)

Supply Not Affected by Government Order Restricting Fat Use

FOR FOAM-BULK-DETERGENCY

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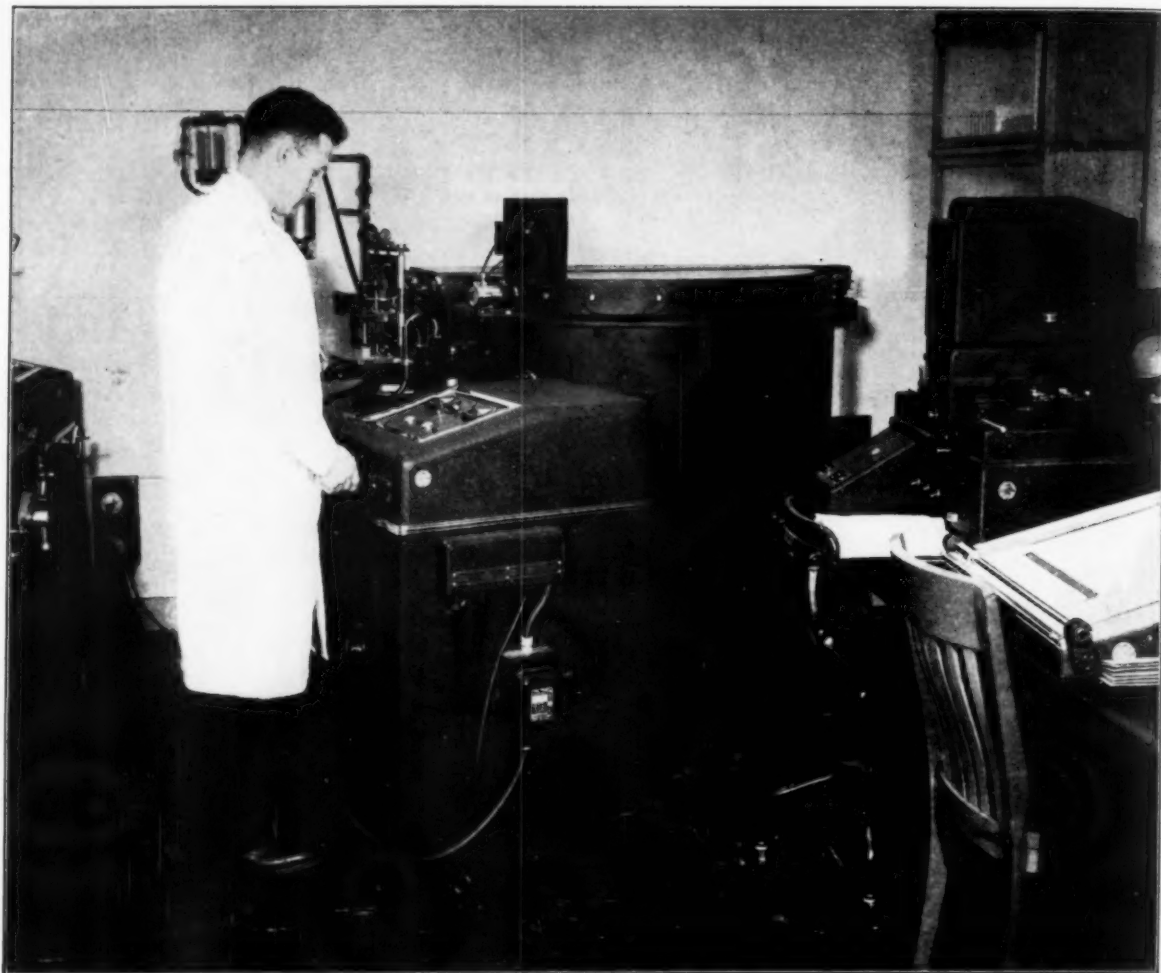
Complete Line of High Quality Synthetic Detergents—Wetting Agents—Foaming Agents

EAVENSON CHEMICAL CO.

(Formerly SANDERS-EAVENSON CHEMICAL CO.)

55 Liberty Street

New York 5, N. Y.



The machine that looks inside steel for you

Quite a machine, this spectrograph at American Can laboratories at Maywood, Illinois.

First, the steel is heated in a high-energy electrical discharge until it gives off light.

Then it resolves this light into its component parts.

Finally it takes a picture of these component parts on photographic film. This is called the spectrum of the sample. This spectrum is just as characteristic of the steel as an indi-

vidual's fingerprints. It actually reveals the composition of the steel.

So then what?

Well, American Can scientists evaluate the spectrum and determine at once whether the sample meets established specifications.

Spectrographic analysis like this is an important part of American Can's quality control. Its purpose? To assure our customers that the steel in their containers will have the corro-

sion resistance it needs to do their specific container job.

Quality control in steel, thickness of tin plate, solder, sealing compounds, enamel, and all the countless steps in can manufacture are but a part of American Can's service to its customers.

There is marketing research, the design of lithographed labels, processing help—to mention only a few more services. Why not ask our representative for further details? Or write:

AMERICAN CAN COMPANY



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WORLD'S LARGEST MANUFACTURERS OF FIBRE AND METAL CONTAINERS

Lined Drums for Shipping Soaps

By Dr. L. H. Ott*

Rheem Products Co.

AT the early part of the present century a noticeable conversion from the use of the wooden barrel to steel drums began to take place. Today the steel drum is the most popular bulk package, particularly for liquids and pastes. The present consumption of drums¹ is about 40,000,000 per year, of which about 25,000,000 are of the 55 gallon size. Shipments of soaps and detergents consume about 100,000 55-gallon drums each year, about 50,000 smaller drums, and about 1,300,000 pails.² For liquids, which would include liquid soaps, the 55-gallon, 18 gauge drum with tight head, that is, a non-removable head, and two small openings is the most popular type. This is usually used as a single-trip, or non-returnable container.

There are four basic materials from which bulk shipping containers are fabricated; metal, wood, fibre, and glass. Taking everything into consideration, metal shipping containers are recognized as being superior for all-around service. It is to be admitted that there are some products which metal will not hold satisfactorily until further progress is made with protective lining materials. Due to corrosion and contamination, and government regulations, certain products must be packaged in glass or wood. Invariably

however, where metal can be used, either with or without protective coatings, it is adopted. Among the reasons for this is superiority in the following qualities:

Strength
Water and moisture proofness
Vermin and rodent proofness
Fireproofness
Resistance to product absorption
Resistance to hot filling
Greater retention of cleanliness
Ease of reconditioning and resale value
Ability to withstand rough handling
Ease of handling
Ease of closure and closure security
Product security

Metal drums are generally classified in four groups as follows:

1. Solid Metal
 - a. Black steel.
 - b. Non ferrous metals as aluminum, nickel, magnesium,
 - c. High and low grade ferrous alloys as chrome, nickel, copper bearing, and stainless steels.
2. Black steel base metal used with:
 - a. Clad metals as Ingaclad, Lukens Clad, Jessopclad.
 - b. Light gauge non ferrous and stainless steel sheets, lead, rubber, etc., affixed in several ways to the container interior.
3. Protective coated black steel sheets:
 - a. Synthetic resin coatings such as phenolics, vinyls, alkyds.
 - b. Metallized finishes.
 - c. Hot dipped, as tinned and galvanized.

- d. Electrolytic plated, as tinned, aluminized, Corronized.
4. Mill finished sheets as:
 - a. Galvanized.
 - b. Terne coated.

During the past two decades considerable progress has been made in the fabrication of drums. In the modern drum plant practically all operations are performed mechanically. As production has increased, costs have decreased.

A drum is fabricated from three or more parts. The main parts are the body and the two ends. In production the cylindrical body is rolled from a single sheet of steel, the ends of which are welded together in an automatic flash welding operation. The drum ends are stamped from sheet stock in huge presses, which draw and emboss the metal in a simple operation. The ends of a drum are attached to the body cylinder by double seaming, which consists of tightly interfolding five thicknesses of steel mechanically. Included in this double seam is a sealing compound composed of rubber or glue to seal it against penetration of liquid through the folded seam. These end seams, also called the chime of the drum, can be strengthened by metal reinforcements of 11 or 12 gauge steel weighing about 10 lbs. per pair. This increases the weight of a 55 gallon 16 gauge drum from about 63 lbs. to a little more than 73 lbs.

The rolling hoops on a drum are formed by extending part of the side wall of the shell. These hoops are about

* Address before Potash Soap Division, Association of American Soap & Glycerine Producers, New York, Jan. 10, 1946.

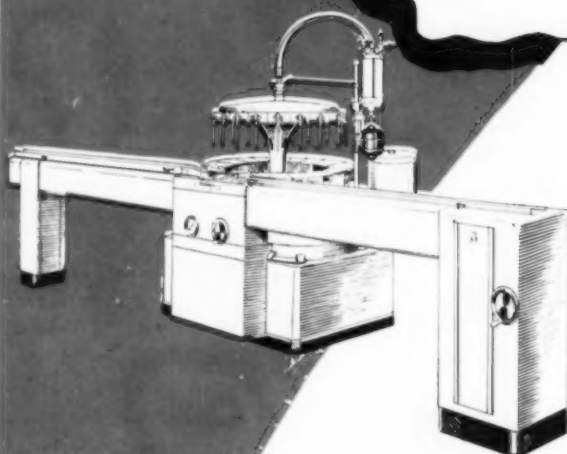
¹ Drums are cylindrical steel containers with a capacity of at least 12 gallons or 100 lbs. regardless of gauge.

² Dept. Commerce report on Containers December, 1944.

Found

"Missing hours"

By
**KIEFER AUTOMATIC ROTARY
VACUUM FILLING MACHINE**



● With the neat filling of all liquids whether light, heavy, foamy or syrupy, **QUICKER** and **MORE EFFICIENTLY**, this machine pays for itself through savings, in a reasonable time. The Automatic Rotary makes the most of every hour, always turning in maximum production every minute of every hour.

**Ask us to show you how you can recapture
"missing hours" in your plant**

Completely automatic, semi-automatic,
hand-fed equipment to clean, fill, close,
convey jars, bottles, tins, collapsible tubes.

Also

Filters and Pumps

The Karl Kiefer Machine Co.

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New York — Boston — Chicago — Baltimore — San Francisco — Seattle — Los Angeles — London, England



$\frac{3}{4}$ inch high. Corrugations are sometimes put into the side wall to increase the stiffness of the shell. Standard openings are $\frac{3}{4}$ inch and 2 inches. The threaded flanges for the openings are commonly inserted by mechanical crimping in presses. There is a rubber gasket in each flange between it and the drum metal to prevent leakage at this joint. Plugs are made of cast iron, plated steel, alloy steel, and zinc or aluminum die castings. In returnable or heavy gauge drums the flanges are frequently welded in place to prevent failure of the container at this point. Heavy drums in the ICC class are usually equipped with I-bar rolling hoops externally applied to the drum in one of several manners prescribed by regulations.

In addition to the tight head drum just described there are semi and full-open-head drums with various types of closures including lug, bolted, friction, bolt-ring, and lever lock ring. The container industry has developed types and sizes of drums to meet practically all general requirements. At the present time it is engaged in standardization of overall dimensions for a given capacity container, which when accomplished will permit better car-loading by the user and also allow interchangeability of certain parts, especially in the open head drum classification.

It is unfortunate that steel is a chemically reactive metal and must be protected from contact with some acid, alkaline, and oxidizing substances, so that for years it was necessary to package certain commodities in glass or wood containers. However, the usefulness of steel containers has been greatly increased by the employment of resinous linings. Due to intensive research in the field of plastics and resins during the past 30 years, tremendous advances have been made in the development of synthetic coatings for application over steel. This has opened a vast new field in packaging, with tremendous possibilities. The rapid growth of the steel container industry is due in part to its ability to supply lined containers.

One of the first to adopt the use of synthetic resin protective coated

steel shipping containers in a major way was the shortening industry. As resins were improved, other industries adopted lined drums for various products. Prior to the war about 28 per cent of the drum consumers used lined containers, and then in most cases only to a very limited extent of their total requirements. This was due principally to the need for improved coatings, combined with a better technical knowledge of usage and application. Also in general, little effort was expended by the container industry to educate the consumer to the advantages of protective lined steel containers. This was practically a new industry and some manufacturers hesitated to grow with it. Today both the container manufacturer and consumer recognize the possibilities. The war has taught us much in this respect. Such products as turpentine, syrups, colas, and other products too numerous to mention, and not formerly packed in lined steel, were successfully carried in such units to the armed forces.

A recent survey of 250 container users seems to indicate that their future requirements for lined packages will be considerably increased. More than 80 per cent of those investigated will require from 15 per cent to in excess of 90 per cent of their total requirements in lined containers. This applies to the chemical, petroleum, solvent, lacquer, food, cola, vegetable and mineral oil, syrup, and other manufacturing and processing industries. This increase over prewar use may be ascribed to a number of reasons. Among these is the desire to eliminate investment packages which are frequently fabricated from high cost metals or with expensive metal coatings; also the development of new products requiring the protection of resin coatings, and the adoption of lined drums to eliminate any possibility of even the slightest discoloration or contamination of standard products.

There is also the all important matter of cost to the consumer. A single-trip container, lined with even the more expensive synthetic coatings, is invariably lower in cost than a special metal or high grade hot-dip metal package.

Generally speaking, linings for steel containers are designed to protect the contents of a container from contamination or discoloration by the steel, rather than to protect the container from the action of the material packaged. The linings are referred to by the terms resinous, plastic, enamel, lacquer, and varnish coatings. They are all organic film forming materials. They include waxes, paraffins, bitumens, rubber and rubber derivatives, also synthetic lacquers incorporating phenol-formaldehyde, vinyl, alkyd, melamine, styrene, vinylidene resins, etc. These lining materials are applied over carefully cleaned, or otherwise prepared, steel. The lacquer materials are usually baked after application at temperatures varying from 250°F. to 450°F.

In regard to lined drums for the soap industry, we have successfully packaged a considerable number of soap products. Most of our experience has been with phenolic and vinyl coatings. Since most soaps are only mildly corrosive as a result of being neutral or slightly alkaline, it has been possible to obtain a satisfactory job with a single coat lining. In the case of liquid soaps, the story has not been as satisfactory due to the presence of certain surface active materials. These agents are so active that any deficiencies in the coating are points of attack which have sometimes caused the coating to become separated from the base metal. The best way to overcome this condition is by using multiple coat systems over carefully cleaned steel to eliminate pinholes in the undercoating, should any exist.

We feel that there is a definite place for lined containers in the soap industry. We believe that linings will help to eliminate corrosion and consequent discoloration of your products. Your drums will have better storage characteristics, and give more satisfaction. It is very difficult to make blanket recommendations for linings, however. Each new product should be carefully tested in sample containers made under commercial conditions. The drum industry is anxious to work with soap makers in the development

(Turn to Page 145)

ALSOP ~~Hy-Speed~~ MIXERS and FILTERS

for every liquid processing job

"Hy-Speed" PORTABLE MIXERS



Are designed for rim mounting to Open Tanks. Makes every Tank a Mixing Tank.

UNIVERSALLY ADJUSTABLE

The universally adjustable clamp used on all portable mixers permits positioning of the shaft with its propellers on any angle from the tank side wall and at any point right or left of tank center, thereby permitting the selection of the most suitable mixing action for the job at hand.

PROPELLER COMBINATIONS

Many types and combinations of propellers are available for specific purposes. Some of these types are: Push, push-pull, studded, cut-out, perforated, saw tooth, folding and others of the whisk and cage beater type.

PERMANENTLY MOUNTED

Many processes involving agitation require the use of side-entering or vertical propeller units. Proper engineering is essential in such installations if exact results are to be obtained.

Our exclusive experience of over a quarter century in the design and application of "Hy-Speed" Mixers of all types permits us to accurately predetermine satisfactory results. Many special types are also available for any unusual problems.

Our engineering facilities and experience are at your service, write us today.

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ENGINEERING CORPORATION

Filters · Filter Discs · Sheets · Mixers · Agitators

105 GREEN STREET

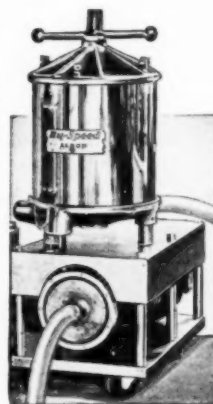
MILDALE, CONNECTICUT

"Sealed-Disc" FILTERS

PORTABILITY

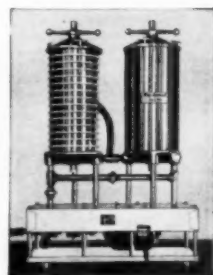
Alsop "Sealed-Disc" Filters are completely enclosed, airtight, eliminating loss through leakage or even by evaporation. They are mounted on stands with pump and motor and can be equipped with wheels when portability is desired. Where corrosive liquids are to be handled and where splashing is likely to be encountered, the special splash-proof assembly shown is available.

Metals used in the Alsop Filters depend upon the solutions to be handled; they are made of Stainless Steel, Monel Metal, Nickel, Brass and Bronze or Iron and Steel.



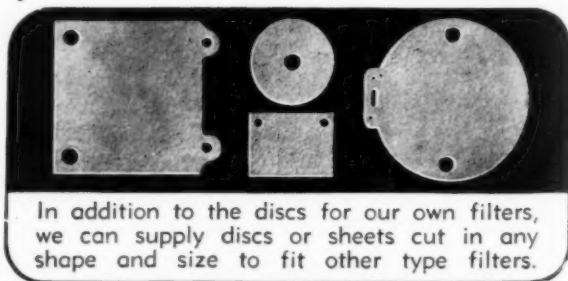
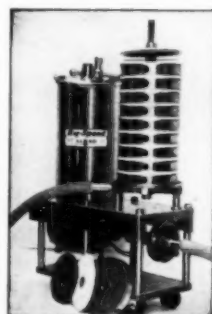
MULTIPLE UNITS

Where large capacity filtration is needed, multiple unit filters are recommended because they give the greatest possible filtration area and capacity within the smallest and most convenient space limits.



SIMPLICITY

The principal of design used in "Sealed-Disc" Filters accounts for the enormous filtration area in such small and compact units and is equally responsible for their relatively enormous capacity. They provide maximum possible flow rate, with positive clarity and with a minimum of supervision and operating labor. Sizes, with or without pumps, range from 1 g.p.m. to thousands of gallons per hour.



In addition to the discs for our own filters, we can supply discs or sheets cut in any shape and size to fit other type filters.

PRODUCTION

Clinic

By DR. E. G. THOMSEN, PH.D.

THE writer was recently privileged to discuss the subject of company publications or house organs with the head of a concern which has for over twenty years published one of the most attractive and best edited magazines of this type. The objective of this particular periodical is to promote better packaging, to publicize beautiful packages of customers using the company's products, to present technical information regarding various products packed and last but not least, to increase sales. In addition, other benefits are derived. These are pride of the employees of the company in their products and a more genial customer-seller relationship. It is interesting to know that in this particular house organ, institutional advertising and company, employee gossip which so often fill the pages of house organs, are entirely suppressed. They have adopted the plan of propagandizing their products by showing their use on customers packages. Each month they pull a page from their own publication, however, to reinsert in regular trade papers to augment their advertising.

My friend informed us that, due to this method of advertising, their business has received much impetus. When they curtailed such publicity, due to paper shortages, they were deluged with requests for regularly published issues. This indicated that the organ had become an important addition to many customers' reading, for the requests came from all departments of various businesses but mostly from men in the production department.



This private publication is but one of the many that are available for the mere asking. Most of the papers are not as elaborate or artistic as the one referred to. They should not be judged, however, by their size but by what the reading matter consists of. Not all companies can afford to publish too elaborate a paper. Every month we have the opportunity of reading quite a few of these house organs. There is a tendency in some cases to read those that have an attractive make-up and pass by the ones that do not carry illustrations. It is about the same as being attracted to the flashily dressed dame, rather than to the plain Jane who usually has more brains than good looks. We have in mind a mimeographed series of sheets we peruse once a month that contain much more information than another that comes to us and ballyhoos a lot of insignificant matters and subjects. A bit more of the meaty things with fewer jokes and less gossip would cer-

tainly add to the value of this attractively made-up house organ.

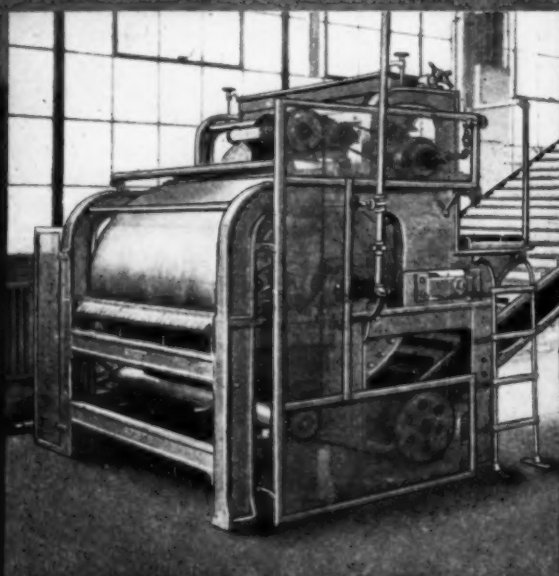
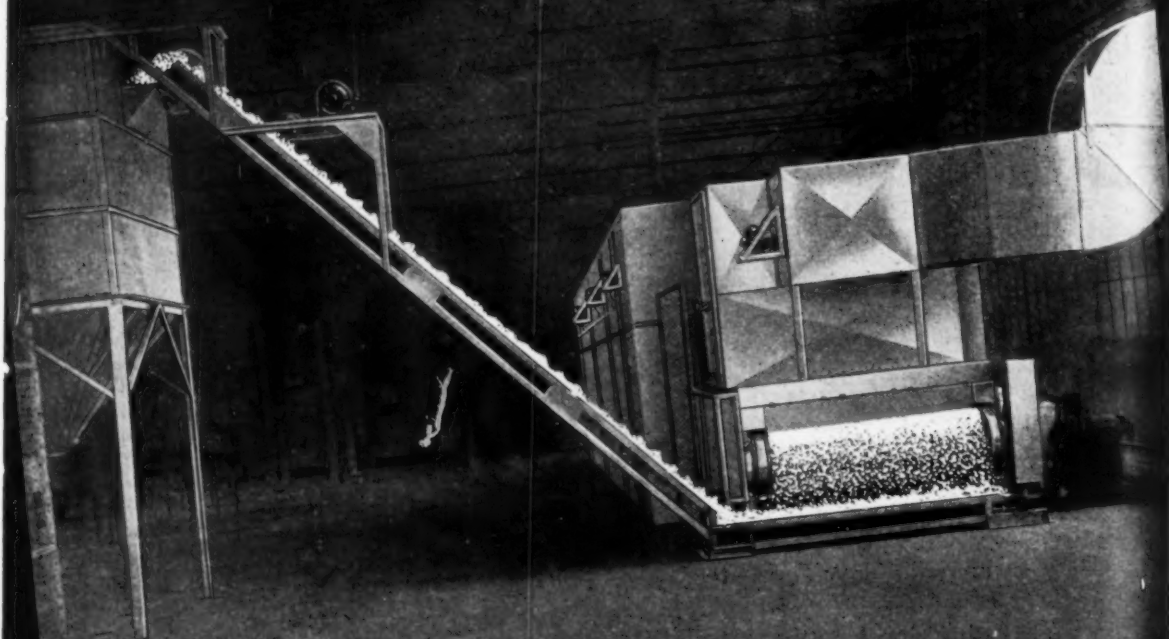
It is often the case, in larger organizations, that house organs do not find their way to the production man's desk. For some unknown reason they go to sales and advertising departments and get buried in their files, whereas they contain information of great value to the men who produce and control qualities of the goods. A considerable part of the blame for this lies with these men themselves. Publishers of house papers aim to get their issues into the proper hands. If this is not done they do not know it unless the interested persons inform them. They are usually very generous with their publications and are happy to put interested persons on their circulation list. All that is usually necessary, is to write them on a company letterhead, give the employee's title and ask to be included. One courtesy most of us who obtain this free service often fail to render is to write a letter of appreciation to the editor. Such a favor is very acceptable and so rare it oftentimes finds space in the publication. It is rather difficult for many of these editors to know if they are actually presenting what their readers want.

If you are not reading house organs pertaining to your particular line of business you are losing a big bet. Much valuable information of a technical and of a general nature may be gleaned each month by proper reading of the important contributions these make to the literature. Much of it is important to produce better products more efficiently.

Liquid Floor Waxes

In a recent rather long jaunt through the middle west we had occasion to examine numerous samples of liquid floor waxes and the so-called synthetic or artificial waxes used to compound them. The shortage of carnauba wax has certainly brought upon the market an amazing array of substitutes. It is unfortunate that in a time of emergency, smaller wax makers particularly, are misled by untried and misrepresented products. Unfortunately carnauba

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wax or other waxes, or what have you, are not covered by statute or regulation that requires any statement as to content, purity or efficacy. The Federal Specification P-W-151a which is so often used as a criterion for the quality of a water emulsion floor wax is subject to rather wide interpretations. It seems to be used at present, more as a specification for sophistication, rather than to cover a satisfactory product. One sample we examined claimed to contain 12 per cent non-volatile matter. We found 10 per cent. The so-termed wax content of the total solids ran 65 per cent by weight as the above spec. requires and the softening point certainly was "not less than 77° C." We could not soften it at even about 100° C. It set to a hard, dense mass as we raised the temperature above 80° C. If there was any wax, and especially carnauba, in this residue, we could not find any. Yet this emulsion wax was represented as passing P-W-151a.

In another case we tried to apply a wax to a piece of battleship linoleum whose surface was properly treated to take liquid wax. It went on about like water wets a slick, oiled surface. Here and there some of it stuck but the effect upon drying was like the small shadows when the sun shines through a fully leafed tree. It produced a good mottled effect. Yet again this wax was represented as being a "superior liquid emulsion wax." When fresh we were told it seemed to work alright.

In another sample the mass had thickened or jellied so it was reminiscent of cheese curds. Even shaking it would not break up the congealed portions properly. We have never seen properly made waxes made from carnauba wax react like this, especially if about 8 per cent of this wax is present. Another sample of liquid wax made six months previously from an artificial, carnauba-type wax was shown to us. This company was on the spot as they had made up a considerable quantity of this wax and had it widely distributed. When first made, the wax was a good substitute for a carnauba type wax. As it aged

an unpleasant odor developed and after about six months the product stunk to high heaven. Some sulfurous compound entered into the scent. No traces of sulfur were found in any of the known ingredients which were also used in another wax without imparting a bad scent. The odor arose from some decomposition product in an artificial wax used in the product.

Liquid waxes were also found which indicated the presence of low melting point waxes and mineral waxes of high melting points. We probably have not covered all the present day sophistications practiced to produce a satisfactory liquid emulsion wax without the use of carnauba wax. We do not criticize the objective. As a matter of fact it would be a boon to the liquid wax business if a good wax could be made without carnauba wax. What we do criticize is the unwarranted haste with which untried products are coming to the market, as well as the misrepresentation that is current. Such procedures are most detrimental to any type of business. The usual remedy is legislation to counteract the exploitation of the uninitiated and the public. It seems to us that since carnauba wax is very apt to be scarce for a long time and there is a market for a substitute floor application, some more comprehensive specification than P-W-151a to cover these newer type products should be established for the good of the industry.

Emulsifying and Dispersing Agents

The Biofen Laboratories, Bridgeport 7, Conn., inform us they have available a new series of compounds as emulsifying and dispersing agents. These consist of high molecular weight esters ranging from viscous liquids to hard waxy solids. Certain of these are miscible with pine oil, kerosene, linseed oil, toluol, etc. By the addition of water to these mixtures, permanent stable emulsions result. DDT solvent solutions, carnauba and other waxes may be emulsified by special emulsifiers of this type. The substances also possess value because of their acid stability as dispersing and thickening agents in the presence of acids, bases and salts. Further information in re-

gard to these may be had by consulting the above company.

Pulverizer for Ultra-Fine Powders

The No. 5 Mikro-Pulverizer is announced by the Pulverizing Machinery Company, Summit, N. J. This small mill, by the use of 5 pH motor to drive it, will grind from 5 to 200 pounds per hour of certain materials, reducing them to particle sizes from 1 to 25 microns. The mill operates by a new grinding principle that assures performance as to particle size, capacity and required horse power. The Mikro-Pulverizer is so constructed that the materials being ground are in contact with stainless steel or a high nickel-iron alloy to prevent contamination. Further details are available.

Rust-Proof Dust Pan

Steel Industries, Inc., Chicago, are now manufacturing a line of cadmium-plated dust pans for heavy duty institutional use. The cadmium-plating prevents deterioration due to rust when the paint chips away. Distribution plans call for sale through janitor supply houses.

New Telescoping Filler

A new package filler that employs telescoping action to avoid waste and dust in the packing of free and non-free flowing products such as cleansers, bowl cleansers, flake lye, drain pipe openers, chemical cleaners, soot removers, etc., was introduced recently by J. L. Ferguson Co., Joliet, Ill. Cylindrical containers, paper and metal cans or rectangular cartons are raised onto the filling tubes of the new "Packomatic Telescoping Volumetric Filler," and then lowered in continuous operation. This internal, close-contact action prevents dust and loss of material, according to the manufacturer. The new filler handles up to 100 packages per minute, and can be built on order for higher speeds.

First Italian Pumice Arrives

James H. Rhodes & Co., Long Island City, N. Y., announced recently that it had received its first shipment of Italian pumice since before the war.

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Evaluation of Washing Agents

For the evaluation of synthetic washing agents, protective colloid action and emulsifying, wetting, dispersing, and in some cases lubricating properties must be considered. Detergents differ so much among themselves that no one test will give a valid comparison of their respective values under all conditions. Laboratory tests should be empirical and should be based on practical conditions. R. B. Whitehead. *Ciba Rev.* 1945, No. 49, 1789-90; through *Chem. Abs.*

Oil Extraction Plant

Tests of an Allis-Chalmers semi-works solvent extraction unit similar in design to their 200-ton unit, have indicated that this can be used successfully in the oil-milling industry with a saving in electric power requirements and operating personnel. The semi-plant unit was first used successfully in the soybean industry.

The extractor or contact chamber is composed of many superimposed glass rings divided by steel partitions. The cottonseed meats are fed into the top and pass through by gravity while the solvent is introduced at the base of the extractor and withdrawn at the top. The oil-solvent mixture discharges into a receiving tank with agitator and is then filtered, pumped through a flash chamber and to a stripping column to remove the last traces of solvent from the oil. The meal passes through a drier to recover the solvent. J. I. Gordon. *Southern Power and Industry* 64, No. 1, 55 (1946).

Pressure Hydrolysis of Fats

By use of a specially designed pressure vessel with a carbon steel shell and an inner surface clad with a thin layer of Inconel, an alloy resistant to corrosion from fatty acids, fats and oils can be hydrolyzed. About one-third of the inner vessel contains water, about half contains fatty material, and the space surrounding the inner vessel is filled with saturated steam under 640 pounds pressure, the liquid oil and water being at 250° C. The glycerol is retained in the aqueous layer and the fatty acids pass into the

fat layer composed mainly of fatty acids but containing some hydrolyzed material. Outlet pipes are used to maintain proper operating pressure by release of aqueous glycerol solution and fatty material, respectively. W. Davey, to Colgate-Palmolive-Peet Co. U. S. Patent No. 2,389,246.

Evaluating Metal Cleaners

A quantitative method for performance evaluation of alkaline metal cleaners is described. Reproducibility is rather good. The method involves coating metal panels with various oils by a specific dipping and drainage technique, followed by a carefully controlled cleaning and rinsing procedure. The panels are covered with a fine spray of water, which condenses as droplets on the oil-covered areas, providing a pattern that remains constant for a sufficient time for a sketch to be drawn on paper divided into 100 squares. The average value for cleaned area of 5 panels is the cleaning efficiency index. Conditions influencing the results, and variations in the procedure are discussed. S. Spring, H. I. Forman, and L. F. Peale. *Ind. Eng. Chem., Anal. Ed.* 18, 201-5 (1946).

Component Acids in Fats

The mixed fatty acids in liquid fats are separated into several groups by crystallization from appropriate solvents at low temperatures. In each group the proportions of the component acids are determined spectrographically after isomerization with alkali. Palmitic acid and other saturated acids may be determined by fractional distillation of the completely hydrogenated methyl esters of the total mixed fatty acids, or from direct ester-fractionation of the methyl esters of each group of the mixed acids. F. D. Gunstone and T. P. Hilditch. *J. Soc. Chem. Ind.* 65, 8-13 (1946).

Fatty Acid Fractionation

Mixtures of fatty acids and of fatty acids and their esters of simple alcohols are separated by passing a solution of the substances through a thick layer of an inert surface-active material. H. P. Kaufmann. German Patent No. 741,359.

Alteration of Soap Phases

Emulsion studies were made and the alteration of soap phases studied by adding increasing amounts of water to a homogeneous oily solution of 100 cc. of triethanolamine oleate in 19 cc. of paraffin oil. With 15 cc. of water the solution became rigid. Toward 50 cc the emulsion could not be resolved microscopically but had a honeycomb appearance suggesting heterogeneity. This was confirmed as more water was added, and with 100 cc. the water particles were clearly visible. With 200 cc. it was creamy, but was still of the type water-in-oil. Softening definitely occurred with 220 cc. and with 240 cc. inversion distinctly took place.

In order to prove that the critical point of inversion is independent of the amount of oil, the same experiment was repeated with 100 cc. of the oleate in 119 cc. of oil. The inversion again occurred with 240 cc. of water. By operating with the same amount of soap it was possible to add as much as 2500 cc. of oil without destroying the oil-in-water phase. The type of emulsion was determined by adding to each preparation a few grains of Sudan red, soluble in oil, and examining microscopically. The best means of preparing emulsions was found to be an egg beater. For concentrations of soap below 28.5 per cent the soap is soluble in water, although for very great concentrations it is the water that is dissolved in the soap. F. Lachamp. *Compt. rend.* 220, No. 10, 317-18; through *Chem. Abs.*

Soap in Cetane and Water

Transition temperatures have been determined for mixtures of sodium stearate, cetane, and water, and the properties of such systems have been described. The systems exhibit a great variety of colloidal phenomena, existing as clear solutions of "solubilized" oil, as oil-in-water emulsions, as soft liquid crystal phases, and as gels which vary from transparent jellies to hard wax-like solids. They are of industrial importance in such products as cosmetic preparations, lubricating greases etc. R. D. Vold and J. M. Philipson. *J. Phys. Chem.* 50, 39-53 (1946).

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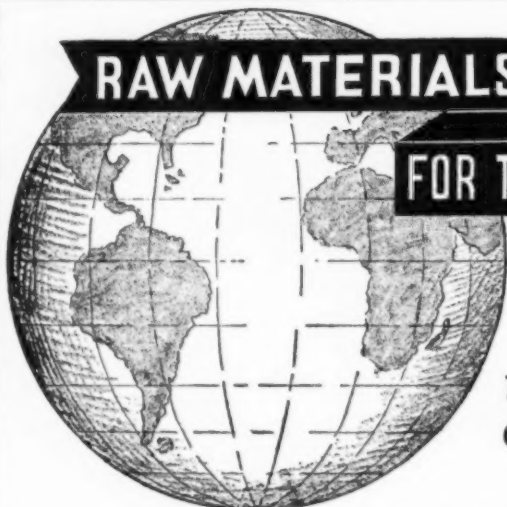
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Lard Oil
Neatsfoot Oil

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PRODUCTS AND PROCESSES

Granular Soap

By incorporation of soap products made from an oil of the coconut-oil type, the tendency of granular soap products to "ball" is circumvented. Mix 90 parts of a ground flake product prepared from a 39-titer tallow-grease with 10 parts of finely divided coconut-oil soap, to produce a mixture which does not ball in water at 120° F. D. R. Byerly, to Procter & Gamble Co., Inc. U. S. Patent No. 2,388,632.

Cleaners in the Dairy

Single or multiple alkaline cleaners find use in the milk industry, including caustic soda, soda ash, sodium metasilicate, and trisodium phosphate. Abrasives are sometimes added. Metasilicate is preferable to orthosilicate which is more alkaline, and trisodium phosphate is preferable to disodium phosphate, which is less alkaline. Removal of adherent proteins and fatty matter depends on the alkalinity or the proper pH of the cleaning solution. G. Ray, *Chemie & Industrie* 55, 27 (1946).

Soap for Molds

Soap is a component of a lubricating mixture for molds used in molding rubber. For this purpose the following aqueous emulsion is recommended in U. S. Patent 2,388,163.

	Per cent
Gum arabic or agar-agar	0.1-0.4
Soap	0.1-0.3
Pine oil	0.3-0.9
Turkey red oil	1.2-2.1
Trisodium phosphate or sodium pyrophosphate	0.34-0.4
Water, to	100

Bull. Assoc. Am. Soap & Glycerine Producers, March, 1946.

Recovery from Fish Waste

Fish waste is digested under steam pressure after adding caustic soda corresponding to about 10 per cent of the estimated protein content. The solution is cooled to 50° and the protein precipitated by electrolysis, or by addition of acid in slight excess.

Oil may be removed from the surface after the digestion but before cooling. H. Torgersen. Norwegian Patent No. 66,302.

Denture Cleaner

A cleaner for dental plates is composed of the following:

Sodium perborate	240 grains
Sodium chloride	480 grains
Exsiccated magnesium sulfate	30 grains
Calcium chloride	30 grains
Anhydrous sodium carbonate	30 grains
Methyl salicylate	1 minim
Menthol	2 grains
Oil of peppermint	12 minims

Add a little kaolin or magnesia to the powder to prevent it from caking. To use, a small portion is dissolved in water and the dental plate allowed to remain in the solution overnight. *Drug & Cosmetic Ind.* 58, No. 1, 143 (1946).

Sulfonated Amine Compounds

Aminosulfonic acids are treated with aralkylating agents containing at least 8 carbon atoms to form *N*-aralkyl aminosulfonic acids which are useful as dispersing, washing and foaming agents. C. Granacher, P. Streuli, and J. Meyer. U. S. Patent No. 2,376,911.

Carpet Cleaner

A new detergent for location-cleaning of carpeting in homes, hotels, clubs, theaters, stores etc. where floor covering removal is inconvenient, has been announced by the Mathieson Alkali Works, New York. The product will be marketed under the trade name, "Neutrotone."

The cleanser is a powder in which oxidizing agents like hypochlorites are combined with organic detergents. It has high lathering properties but contains no soap. It is used in aqueous solution and applied with a rotary brush. Released dirt and soiled detergent solution are removed with a wet vacuum. The product not only removes ordinary dirt but also deodorizes and demoths carpeting with-

out leaving a residue or harming the texture, color, or tensile strength.

Evaluation of Laundry Sours

The purpose of the sour, applied after the last rinse, is to neutralize the alkali left in the load. The amount which should be used varies with the type of sour; enough should be present to give a pH of 4.5-5.5, which brings the load to a very mildly acid reaction.

Fluoride-type sours are generally considered most desirable, and certain of these possess some stain removing properties. Apart from that, the criterion of suitability may be based on cost per pound, although tensile strength loss may vary somewhat with the different sours. Relative souring power is shown in the table, based on 56 per cent acetic acid as 1.

Relative Souring Power is given per pound of Agent

	Souring Power
Acetic acid, 56%.....	1
Acetic acid, 99.5%.....	1.77
Oxalic acid	1.70
Sodium acid fluoride.....	1.72
Ammonium acid fluoride..	1.88
Sodium silicofluoride	2.28
Ammonium silicofluoride .	2.41
Alkasour	2.17

Oxalic acid is generally considered unsafe for use as a sour,—also mineral acids, as too great loss of tensile strength may result. The amount of sour has to be based on conditions in any particular plant. F. W. Lyndon. *Laundry & Dry Cleaning J. of Canada*, March, 1946.

Aluminum Cleaners

Although aluminum cleaners are common, good ones are very rare. They must be mild acids or alkalies if they are to be acid or alkaline at all. At least one recent pair of patents makes use of very mild materials—namely, sodium metaphosphate, metaphosphoric acid, or ammonium dihydrogen orthophosphate, with a minor proportion of alkali fluoride. A 5 per cent solution is suggested. A wetting agent may be added, and sometimes tartaric acid or sulphamic acid is used. Many aluminum cleaners in the past have contained silicates, a departure from normal practice. *Manufacturing Chemist* 17, 75-6 (1946).



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Complete copies of any patents or trade-mark registration reported below may be obtained by sending 25c for each copy desired to Lancaster, Allwine & Rommel. Any inquiries relating to Patent or Trade-Mark Law will also be freely answered by these attorneys.

No. 2,395,971, Detergent Composition, patented March 5, 1946 by Donald John Loder, Wilmington, assignor to E. I. du Pont de Nemours & Co., Wilmington. A detergent composition in cake form consisting of in percentage by weight from 60 to 95 per cent of a reaction product of 1,3-dioxolane with a water-soluble hydrophobic organic oxygenated compound, which prior to the addition of the 1,3-dioxolane group contained a reactive hydrogen atom, and from 40 to 5 per cent of a sudsing agent selected from the group consisting of sulfonated higher fatty alcohols, soaps, Turkey-red oil, saponine, and the aliphatic and aromatic organic sulfonic acids.

No. 2,396,012, Insect Repellent Compositions, patented March 5, 1946 by Howard A. Jones and Bernard V. Travis, Orlando, Fla., dedicated to the free use of the People in the territory of the United States. A method of repelling insects comprising applying to the area from which the insects are to be repelled an insect repellent composition containing 2-ethyl-n-caproic acid as its essential active ingredient.

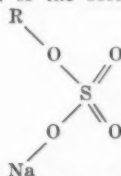
No. 2,396,013, Insect Repellent Compositions, patented March 5, 1946, Howard A. Jones and Bernard V. Travis, Orlando, Fla., dedicated to the free use of the People in the territory of the United States. An insect repellent composition comprising 2-phenylcyclohexanol incorporated in a carrier.

No. 2,396,019, Insecticides, Charles W. Murray, Glenside, Pa.,

assignor to Claude R. Wickard, as Secretary of Agriculture of the United States of America, and his successors in office. An insecticide comprising a carrier of finely divided, fibrous, organic dyed with the salt of an acid azo dye and nicotine.

No. 2,396,054, Insecticides, patented March 5, 1946 by Orville E. McKim, Port Chester, N. Y., assignor to Stanco Incorporated. An insecticidal solution comprising 9.2 per cent to 2.0 per cent pyrethrins I and II and 95 per cent to 80 per cent of isopropyl alcohol and 5 per cent to 20 per cent of kerosene.

No. 2,396,278, Detergent Composition, patented March 12, 1946 by Otto Lind, Dusseldorf, Germany, assignor, by mesne assignments to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio. A detergent composition comprising essentially a sodium salt of a sulphonated alkyl of the formula



where R is a radical of from 10 to 18 carbon atoms and a sodium salt of tetraphosphoric acid.

No. 2,396,398, Polishing Material and Process of Making Same, patented March 12, 1946 by Forrest L. Turbett, Joplin, Mo., assignor to The Eagle-Picher Co., Cincinnati, O. The process of making a material suitable for polishing glass which comprises heating a finely divided, hydrated furnace-charge comprising a substantial proportion of iron pyrites to a temperature between 1500° to 1800° F. for about three hours under oxidizing conditions, cooling the charge, finely grinding it with water, separating the fine particles from the coarse ones in water, flocculating and collecting the fine particles, heating them moderately to drive off free water and then reducing the dried product to extreme fineness.

No. 2,396,468, Germicidal Preparations, patented March 12, 1946 by Elbert C. Ladd, Passaic, N. J., assignor to United States Rubber Co., New York. The method of protecting organic material subject to attack by microorganisms which comprises treating the said material with 2,2,3-

4,4-pentachloro-3,4-dihydronaphthalene-1(2).

No. 2,396,665, Parasiticial Preparations, patented March 19, 1946 by Elbert C. Ladd, Passaic, N. J., assignor to United States Rubber Co., New York. As a new chemical, 2-chloronaphthoquin-hydrone-1,4.

No. 2,396,670, Process for Modifying Fatty Oils, patented March 19, 1946 by Laszio Auer, South Orange, N. J. The method of modifying a fatty oil to improve its drying characteristics which comprises incorporating in the oil up to 30 per cent of fluorescein and heating the mixture to a temperature between about 220° C. and about 350° C. but not above the boiling point of the oil.

No. 2,396,718, Emulsification of Vegetable and Animal Oils, patented March 19, 1946 by Abraham Moscovitz, Nutley, N. J., assignor to L. Sonneborn Sons, Inc., New York. A composition of matter for blending with oils selected from the group consisting of animal and vegetable oils and blends of such oils with mineral oils to form substantially instantaneously emulsifiable products, which comprises 63 to 74 per cent by weight alkali metal petroleum mahogany sulfate, 9 to 11 per cent by weight alkali metal oleate, 4 to 6 per cent by weight free oleic acid, 12 to 14 per cent by weight of at least one member selected from the group consisting of glycols and glycol monoalkyl ethers, and 1 to 6 per cent by weight of water.

No. 2,397,161, Soap, patented March 26, 1946 by Leopold Sender, Baltimore, Md., and Leo D. Jones, Philadelphia, assignors to The Sharples Corp., Philadelphia. In the manufacture of soap by continuous saponification of fat, graining of the resulting soap and separation of grained soap from aqueous reagent solution by subsidence, the process comprising continuously passing a fat together with an aqueous saponifying reagent progressively through a succession of mixing compartments at a saponifying temperature, maintaining saponifying conditions in the respective compartments adapted to produce a saponified mixture in each compartment of which the proportion of the available fatty acid of the source of fat which has been saponified is outside of the range between 70 per cent and 85 per cent of said available fatty acid, passing the mixture containing soap resulting from saponification of the fat, and aqueous phase, to a zone of centrifugation and there subjecting the resulting mixture to centrifugation and thereby separating aqueous reagent from grained soap.

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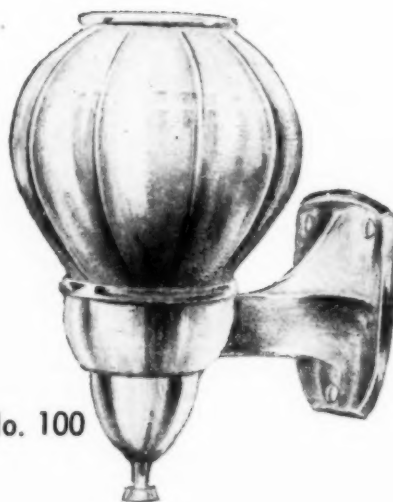


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Continuous Oil Extraction

A countercurrent extractor is described for studying continuous vegetable oil extraction methods in the laboratory. Essential data can be obtained such as completeness of oil extraction, contact time, solvent-to-solid ratio, miscelle composition, and solvent carry-over. Also described are a rising-film evaporator of the natural circulation type provided with a separator for continuous oil removal, and a new and efficient oil stripper providing turbulence and thin films by operating against gravity and against surface tension. A. C. Beckel, P. A. Belter, and A. K. Smith. *Ind. Eng. Chem., Anal. Ed.* 18, 56-8 (1946).

Autoxidation of Soap

A method was developed for determining the amount of peroxide oxygen present in soap directly, in exactly the same way as used for oils by the Lea method. The procedure is as follows:

Weigh 0.5-1.0 gram of soap into a 40 cc. test tube, depending on the expected peroxide value. To the sample add 1.0 gram of potassium iodide followed by a 2:1 mixture of glacial acetic acid and chloroform. Boil until the soap is dissolved—about 10 seconds—and then for 30 seconds longer, timed with a stop-watch. Cool under running water, dilute with 30 cc. of freshly boiled water, and titrate with 0.002. Normal thiosulfate with starch solution as indicator.

Using this procedure it was proved that the old theory that autoxidation and rancidity occur only where free fatty acids or unsaponified fat are present, is wrong. Autoxidation takes place in the neutral molecule of the soap, in the alkali salt itself of the fatty acid. Experiments showed that unsaturated soaps autoxidize much faster than more saturated ones.

When 0.5 per cent of hydroquinone was admixed with the soap, the inhibitive action of hydroquinone was very considerable. The new method thus gives an exact means for discovering real and new oxidation inhibitors. This soap darkened after addition of the hydroquinone, which indicates that

darkening is not necessarily a sign of rancidity. By the use of this method, solution should be found shortly for many outstanding soap problems, such as the effects of traces of metal, of different inorganic and organic antioxidants, perfumes and soap colors. Few attempts have been made heretofore to study rancidity in soap itself rather than in oil stocks. E. J. Better and A. Davidsohn. *Soap, Perfumery & Cosmetics* 19, 132-4 (1946).

Detergent Analysis

A method has been developed for the quantitative determination of sodium alkyl benzene sulfonates which is applicable to commercial detergents containing alkyl or alkyl aryl sulfonates. Under standardized conditions *para*-toluidine hydrochloride reacts with these organic sulfonates to give amine-sulfonate salts. These can then be determined, direct titration being a suitable procedure. T. U. Marston and J. Schifferli. *Ind. Eng. Chem., Anal. Ed.* 18, 49-50 (1946).

Washing White Linen

White linen is soaked and pre-washed with soda ash or silicates. This is followed by washing with a quantity of soap or fatty acids insufficient for complete washing. The step is carried out at a pH slightly above the neutral point but below pH of the usual soap-wash. The washing continues at the same pH with the aid of any washing agent, preferably one containing sulfonic acid groups. The linen is rinsed in the usual way. J. Amende, to I. G. Farbenind. A.-G. German Patent No. 744,811.

Active Ring Compounds

Capillary-active compounds of high molecular weight are obtained from partly or totally hydrogenated organic hydroxy or amino compounds of at least 12 carbon atoms and containing at least 2 carbon rings. The production of capillary-active compounds involves the substitution of at least one radical containing a solubilizing group on either the hydroxy or amino radical of the parent compound. Henkel & Cie. G. m. b. H. German Patent No. 741,305.

Emulsion Stability

Emulsifying ability for oil-in-water was compared using soap and two synthetic agents. One was a commercial monoglyceride having the following composition:

	Per cent
Monoglyceride of coconut fatty acids	14
Diglyceride of coconut fatty acids	14
Triglyceride	2
Free fatty acids	1
Glycerine	25

The other agent was a commercial synthetic detergent containing 35 per cent of the sodium salt of sulfated coconut oil monoglyceride and 65 per cent of sodium sulfate. Both soap-monoglyceride and synthetic-detergent monoglyceride mixtures gave more stable emulsions than any amount of soap or of synthetic detergent alone. W. G. Alsop and J. H. Percy. *Am. Perfumer* 48, No. 1, 71-7 (1946).

Borax Determination

Borax can be determined in soap and synthetic detergents by first quantitatively precipitating silicates, carbonate, and orthophosphates with strontium chloride. Strontium metaborate is soluble in an excess of strontium chloride solution. After the insoluble strontium salts are removed by filtration, strontium metaborate is converted into boric acid by acidification with hydrochloric acid, and the boric acid titrated in the usual manner in the presence of mannitol. E. W. Blank and A. Tory. *Oil & Soap* 23, 50-55 (1946).

Odor Measurement

While a number of instruments have been used to increase the ability to determine a threshold of minimum perceptibility of odor, none has led to reproducible results with any acceptable degree of accuracy. For the type of odor, hardly a beginning has been made. The work on odor perception has given some preliminary results and has possible practical applications in the fields of medicine and insecticides, as well as in the more obvious field of perfumery. The nose of the experienced perfumer still seems to be the most reliable instrument. *The Givaudanian*, February, 1946.

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TRADE MARKS GRANTED
(From Page 59)

No. 486,146. Published Nov. 27, 1945. Class 6.

419,514. Shampoo. Filed by Gold Cap Chemical Co., Somerville, Mass., July 27, 1945. Serial No. 486,367. Published Nov. 27, 1946. Class 6.

419,520. Shampoo. Filed by Monroe Distributing Co., Los Angeles, Aug. 1, 1945. Serial No. 486,585. Published Nov. 27, 1945. Class 6.

419,572. Washing compound for woolens. Filed by Woolfoam Corp., New York, Oct. 14, 1942. Serial No. 459,209. Published Dec. 29, 1942. Class 4.

419,594. Cleanser and detergent. Filed by H. D. Lee Co., Kansas City, Mo., Jan. 15, 1945. Serial No. 478,634. Published Dec. 4, 1945. Class 4.

418,598. Detergent preparation. Filed by F. E. Everson, New York, Feb. 14, 1945. Serial No. 479,787. Published Dec. 4, 1945. Class 4.

419,616. Cleaning compound for type-wheels, ink box and other parts of a laundry marking machine. Filed by National Marking Machine Co., Cincinnati, May 24, 1945. Serial No. 483,734. Published Dec. 11, 1945. Class 4.

419,629. Powder for cleaning various types of surfaces. Filed by Twill Laboratories, Wilmington, N. C., June 25, 1945. Serial No. 485,039. Published Nov. 27, 1945. Class 4.

419,639. Synthetic detergents. Filed by Miranol Chemical Co., Irvington, N. J., July 12, 1945. Serial No. 485,733. Published Nov. 27, 1945. Class 4.

419,640. Synthetic detergents. Filed by Miranol Chemical Co., Irvington, N. J., July 12, 1945. Serial No. 485,734. Published Nov. 27, 1945. Class 4.

419,641. Toilet soaps. Filed by Charles of the Ritz, Inc., New York, July 13, 1945. Serial No. 485,756. Published Dec. 4, 1945. Class 4.

419,757. Insecticide. Filed by E. I. du Pont de Nemours & Co., Wilmington, Del., June 15, 1945. Serial

No. 484,562. Published Aug. 21, 1945. Class 6.

419,762. Lotions for cleansing the teeth. Filed by Dermetics, Inc., New York, June 21, 1945. Serial No. 484,832. Published Dec. 18, 1945. Class 6.

419,763. Insecticide. Filed by E. I. du Pont de Nemours & Co., Wilmington, Del., June 21, 1945. Serial No. 484,833. Published Dec. 18, 1945. Class 6.

419,765. Synthetic detergents. Filed by Solvay Process Co., New York, June 22, 1945. Serial No. 484,914. Published Dec. 18, 1945. Class 4.

419,766. Tincture of green soap. Filed by Seco Laboratories, St. Paul, Minn., June 25, 1945. Serial No. 484,999. Published Dec. 11, 1945. Class 6.

419,775. Shampoo. Filed by Lucky Tiger Manufacturing Co., Kansas City, Mo., July 13, 1945. Serial No. 485,782. Published Dec. 18, 1945. Class 6.

419,777. Insect spray. Filed by Arrow Engineering & Chemical Co., Flint, Mich., July 14, 1945. Ser-

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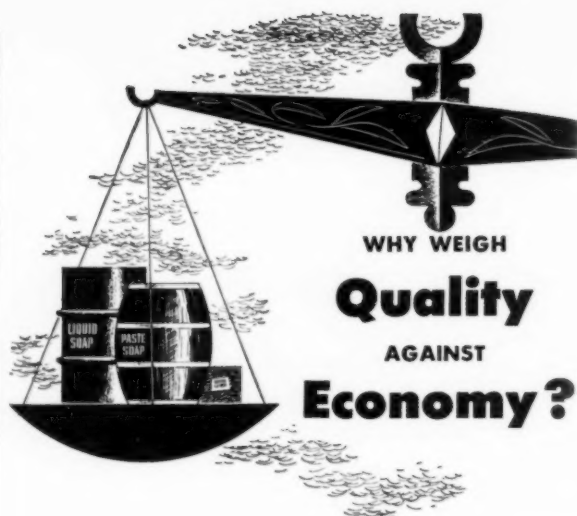
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ial No. 485,808. Published Dec. 18, 1945. Class 6.

419,781. Vegetable oil shampoo. Filed by L. Sonneborn Sons, Inc., New York, July 19, 1945. Serial No. 485,869. Published Dec. 18, 1945. Class 6.

419,974. Liquid floor waxes and a paste polish. Filed by Brulin & Co., Indianapolis, Oct. 16, 1944. Serial No. 475,355. Published Dec. 18, 1945. Class 16.

420,021. Insecticide. Filed by Airosol, Inc., Neodesha, Kans., Aug. 4, 1945. Serial No. 486,719. Published Jan. 1, 1946. Class 6.

420,030. Shampoo. Filed by Lefcourte Cosmetics Co., New York, Aug. 21, 1945. Serial No. 487,381. Published Jan. 1, 1946. Class 6.

420,031. Shaving cream, shaving soap and toilet soap. Filed by Parfums Charbert, Inc., New York, Aug. 21, 1945. Serial No. 487,381. Published Dec. 25, 1945. Class 4.

420,033. Wetting agents. Filed by Michel Export Co., New York,

Aug. 24, 1945. Serial No. 487,514. Published Jan. 1, 1946. Class 6.

420,078. Spray gun for insecticides. Filed by Phillips Petroleum Co., Bartlesville, Okla., April 13, 1944. Serial No. 469,310. Published Jan. 1, 1946. Class 23.

420,135. Chemical for insecticidal uses. Filed by Hercules Powder Co., Wilmington, Del., Aug. 18, 1945. Serial No. 487,255. Published Dec. 25, 1945. Class 6.

420,139. Deodorant block. Filed by Selig Co., Atlanta, Aug. 22, 1945. Serial No. 487,441. Published Jan. 1, 1946. Class 6.

420,141. Insect repellent. Filed by Hafco, Valley Stream, N. Y., Aug. 25, 1945. Serial No. 487,552. Published Jan. 1, 1946. Class 6.

420,198. Silver Polish. Filed by B. F. Natoli, East Rutherford, N. J., Apr. 10, 1944. Serial No. 469,210. Published Jan. 15, 1946. Class 4.

420,201. Parasiticide and bactericide. Filed by Sharp & Dohme, Inc., Philadelphia, Sept. 2, 1944. Serial

No. 473,867. Published Jan. 8, 1946. Class 6.

420,206. Lanolin soap. Filed by Botany Worsted Mills, Passaic, N. J., Oct. 19, 1944. Serial No. 475,477. Published Jan. 8, 1946. Class 4.

420,216. Dry deodorant preparation. Filed by International Chemical Co., Chicago, Feb. 26, 1945. Serial No. 480,239. Published Jan. 8, 1946. Class 6.

420,217. Cleaning compound for linoleum, tile, rubber, cork, etc. Filed by Edward B. Livingston, Kansas City, Mo., Mar. 12, 1945. Serial No. 480,831. Published Jan. 1, 1946. Class 4.

420,233. Water soluble alkali silicate for use in degreasing and cleaning metal, etc. Filed by Cowles Detergent Co., Cleveland, O., May 10, 1945. Serial No. 483,169. Published Sept. 11, 1945. Class 4.

420,245. Shaving creams. Filed by Golden Arrow Toiletries, New York, June 28, 1945. Serial No. 485,145. Published Jan. 1, 1946. Class 4.

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1st Quarter Soap Deliveries Down

Manufacturers' deliveries of soap in the United States in the first quarter of 1946 were smaller than in any calendar quarter since the second quarter of 1942, according to figures on soap sales and deliveries just released by the Association of American Soap & Glycerine Producers, New York. About 619,527,840 pounds of soap, other than liquid, having a sales value of \$92,268,680, plus 883,907 gallons of liquid soap, valued at \$1,058,571, were reported delivered during the first three months of 1946 by the 70 manufacturers who make about 90 per cent of the soap produced in the U. S. Total sales, liquid and other than liquid, amounted to \$93,327,431.

Total pounds of soaps delivered, other than liquid, in the first quarter of 1946 were 5.1 per cent less than in the fourth quarter of 1945, and were 23.4 per cent smaller than the amount delivered in the first quarter of 1945. Liquid soap deliveries showed an increase of 2.3 per cent over the last quarter of 1945. For 68 of the 70 reporting manufacturers whose figures could be compared, dollar sales in the first quarter of 1946 were 4.8 per cent less than in the fourth quarter of 1945, and 15.8 per cent below comparable figures for the first quarter of 1945.

On a per capita basis the 70 reporting manufacturers and the others who do not report their figures to the Soap Association, delivered an average of about five pounds of soap for every man, woman and child in the United States during the first quarter of 1946. Daily deliveries averaged between seven and eight million pounds.

Continued shortages of fats and oils and consequent restrictions by the government on the use of fats in making soap were assigned the responsibility for the decline in soap deliveries.

New Tall Oil Soap Powder

The availability of a saponified tall oil soap powder at about 7½ cents in carload lots was announced recently by George G. Johnston Co., 865 First Ave., New York 17. Tall-soap is a 90 per cent anhydrous powder of vegetable origin, containing

saponified fatty and rosin acids. Very high detergent action is claimed for the product which is said to be useful as an all-purpose soap that forms quick suds that break rapidly.

C. D. & C. A. Golf Dates Set

Gold tournaments of the Chicago Drug and Chemical Association for the coming season have been scheduled as follows, according to a recent announcement: Tuesday, May 21, a joint outing with the Chicago Perfumery, Soap and Extract Association; Friday, June 28, at Sunset Ridge Country Club; Tuesday, July 23, at Elmhurst Country Club and Tuesday, August 20, at Olympia Fields Country Club. The July 23 date will be a joint engagement with the Perfumers group.

Strike Threatens Aromatic Supply

A prolonged strike of coal miners will seriously affect the supplies of perfume raw materials, which are already short, according to a recent statement by Ralph M. Stevenson, sales manager, Givaudan-Delawanna, Inc., New York. He pointed out that the "shortage of supplies of phenol, benzene, toluene, and other coal-tar derivatives, will mean that the supply situation in phenyl ethyl alcohol, benzaldehyde, coumarin, synthetic musks and other perfume materials will take a turn for the worse.

"Any further shortages of aromatic raw materials at this time would be especially unfortunate because of the uninterrupted dearth of natural essential oils and flower oils from abroad, and because of the greatly increased demand for aromatics for perfumes, soaps, etc.," he concluded.

Writes on "Antu"

Robert F. Rumler, writing in the April-May Du Pont magazine, describes the new rodenticide, "Antu," in an article entitled "The Modern Pied Piper!" In his article Mr. Rumler describes the similarity between the discoveries of both DDT and "Antu," (alpha-naphthylthiourea). The work done by Dr. Curt P. Richter of Johns Hopkins Hospital and early applications of "Antu" are also covered.

Plan "Clean Up" Campaign

A luncheon, sponsored by Licensed Beverage Industries, Inc., New York, will be held on Tuesday, May 21 at the Waldorf-Astoria Hotel, New York, for the purpose of outlining a campaign for a nation-wide "clean up" drive on the part of retailers in the liquor industry. It is planned to bring together at the luncheon officials of the major supply and equipment houses in the U. S. Licensed Beverage Industries, Inc., is sponsoring a campaign among the 150,000 retail liquor outlets in the U. S. to "clean up," modernize and renovate their premises. The shortage of supplies, material and labor during the war frequently resulted in marked physical deterioration of these premises. As a result there is a great need for the kind of clean-up campaign it is sponsoring, the group reports. Although not all the materials are available for such a campaign, it is felt that there is a great deal of "clean-up" activity possible among retail liquor outlets which does not involve the use of raw materials now in short supply.

PEA's Hold Course at Fordham

The Professional Exterminators Association, Inc., New York, sponsored its first short college course in rodent control at Fordham University, New York, on April 24-25. Ernest M. Mills, U. S. Biologist, was the principal instructor. Drs. Leslie A. Stauber and John B. Schmitt of Rutgers University spoke briefly on rodent transmission of disease and rat fleas. The short course was mainly one of laboratory practice. Students worked out problems in weights and measures, characteristics of poisons, choice of foods, poison percentages, bait formulas, diluents, diluent poison formulations and did bait-mixing in small lots.

New Givaudan Booklet

A ten-page booklet describing sunscreens agents, with charts of various tanning and sunburning rays, including formulas to meet the requirements of suitable suntan preparations, has been issued and was announced recently by Givaudan-Delawanna, Inc., New York.

SANITARY PRODUCTS

A SECTION OF SOAP

MANY thousands of gallons of government surplus liquid household insecticide are being peddled around the country, but according to reports are not meeting with too great a sales success. However, the fact that this material is available in hands outside of the insecticide industry,—among dealers in surplus government materials who have no interest in insecticides except to turn a quick dollar,—is in itself a dangerous situation as far as the regular market for standard civilian products is concerned. In view of the fact that an insecticide of the type offered will stand up in storage for long periods, it is difficult to understand why the government has dumped it into the laps of speculators who care not what effect it has on the market as long as they can sell at a profit. After all the talk about protecting industry in the liquidation of war surpluses, any such "protection" thus far seems conspicuous by its absence.



ON THE program for the thirty-second annual summer meeting of the National Association of Insecticide & Disinfectant Manufacturers to be held in June at French Lick, Indiana, is listed an open forum at which questions to be submitted in advance by members of the industry will be answered by experts. If we may judge from talk in and about the industry, the number of unanswered questions in the minds of manufacturers and others run into high numbers. This looks like a chance to get the answers,—if there are answers. At any rate, if all the problems of

the industry brought forth submitted questions for answer, the meeting could last three weeks instead of three days. Nevertheless, the open forum idea has always proved effective in unearthing helpful information,—also at times some hot debates.



ALL is not serene within the sacred portals of the Federal Trade Commission. For years, it has split legal hairs with quiet dignity. But the peace of yesteryear has fled, all on account of a beer bottle label. Insinuations and name-calling have raised their ugly heads. For it seems that the Commission voted that American-made beer could be labeled "Canadian Beer,"—but with explanations of course. The magnitude of the problem involved in settling this question, especially its bearing on present world chaos and its importance to the starving millions of Europe and Asia, brought explosive repercussions, even to the Chairman of FTC denying an "unbridled, intemperate wielding of power."

In view of the fact that this latest earth-shaking ruling of FTC is a reversal of a previous decision, we wonder what they are likely to do next. Offhand, it looks to us like the injection of some plain horse sense into the heretofore legal boondoggling in which FTC has always seemed to specialize. But one can never tell,—and if we were a manufacturer of English muffins, Chinese checkers, or French milled soap, we would keep a weather eye on their next move. Heaven only knows what it may be!

NEW FUNGICIDE

**Propionate-propionic acid product
proves effective in control of ath-
lete's foot and other fungus diseases**

By Frank Owens

Wyeth, Inc.

ATHLETE'S foot, the most common fungus disease, is estimated to affect from 75 to 90 per cent of certain population groups. In a recent countrywide industrial survey it was shown that during the hot season 80 per cent of workers had fungus infections of the feet (*tinea pedis*). There has been a crying need, therefore, for a specific fungus inhibitor that would be safe and effective.

A new propionate-propionic acid product manufactured by Wyeth Inc., Philadelphia, and being marketed under the trade name "Sopronol*" has just been released to the medical profession and drug trade after serving a therapeutic apprenticeship of several years. It is believed to represent an important addition to the list of fungistatic materials.

The fungistatic properties of this new material have been demonstrated on a test basis in the laboratory, and, clinically, against many of the more common and some of the rare fungus diseases. Moreover, there is not a single clinical record of primary or allergic reaction from its use. For one thing, propionic acid is a natural component of human perspiration (it is its presence that helps the skin repel both fungus and bacterial invaders), and for another the safety

of the product is attested by the fact that propionic acid is a natural by-product of Swiss cheese and is present in it, and is also used in large quantities as a mold retarding agent for cheese, butter and bread.

The antimicrobial action of propionic acid was established by pursuing two avenues of investigation: a routine examination of the antiseptic action of a whole series of fatty acids, of which propionic acid is a member—and by a line of research which started off with an academic inquiry into the acidity of the skin. That strong acids would kill micro-organisms was to be expected. However, the criterion for an effective antimicrobial agent is its ability to eliminate the micro-organisms without injuring their plant or animal host. Compared with the strong acids, such as sulfuric and hydrochloric, propionic acid and related fatty acids are mild and, in suitable dilution, closely approximate the acidity of the skin.

The first systematic examination of the bactericidal value of fatty acids was made by W. F. Bruce and reported in the *Journal of the American Chemical Society*. Examining fatty acids containing from one to four carbon atoms, Bruce found that those with an odd number of carbon atoms, including propionic which has three, were bacteriostatic, while the

even-numbered acids—acetic, butyric and isobutyric—do not interfere with bacterial growth.

Then, in 1928 and 1929, S. M. Peck and H. Rosenfeld, whose interest in the constituents of human perspiration had been attracted by the idea that it might act as a protective coating against parasitic and fungus infections, collected large quantities of sweat, analyzed them chemically and tested the anti-mold properties of the natural sweat, concentrated sweat and an artificial reproduction of sweat based upon its chemical analysis.

Peck and Rosenfeld grew *Trichophyton gypsum*, one of the fungi responsible for athlete's foot, in a suitable medium (Sabouraud's bouillon) and found that it would grow in media of the most divergent pH. They also found that the fungicidal and fungistatic effects of fatty acids and their salts were not due to their pH values but to their intrinsic anti-mycotic properties. Then testing the individual fatty acids, Peck and Rosenfeld found that propionic acid totally inhibited growth of typical fungi at a concentration of 0.03 per cent, a solution which gives a pH of 5.0 in Sabouraud's bouillon.

When Peck presented his findings, which tended to show that the more abundantly a person perspired the more fungicidal should be the skin, he was asked to explain the apparent contradiction inherent in the clinical observation that fungus diseases appear most often in areas where the most perspiration gathers, such as between the toes. In reply, Peck differentiated between the so-called insensible perspiration, which contains practically nothing but water and a little salt, and true perspiration which is produced by the sweat glands. The insensible, or water perspiration, he pointed out, was present between the toes and in other areas where it provides ideal conditions for fungus infection. In contrast, areas which are bathed by true sweat, if it is not too dilute, actually are protected from parasitic infection. In a subsequent paper, Peck proved that sweat, when concentrated by evaporation, definitely inhibited *T. gypsum*, one of the causative agents of athlete's foot. Sweat in 1 per cent concentra-

* See page 143 for composition of the three forms in which the product is available.

tion produced no inhibition; at 2 per cent concentration there was 60 per cent inhibition; 3 per cent allowed moderate surface growth; while 6 per cent completely inhibited growth. Chemical analysis of the sweat showed it to contain 0.0091 per cent propionic acid and 0.0377 per cent caprylic acid, among other ingredients. Artificial sweat based on this analysis, with a pH of 3.37, therefore, they concluded, would inhibit growth of *T. gypsum*.

A series of patients were then treated with mixtures of sodium propionate in various vehicles. It was found that alcoholic solutions of sodium propionate (10 per cent) and sodium propionate in talc (15 per cent strength) gave a satisfactory result in acute inflammatory lesions, whereas a suspension of sodium propionate 15 per cent in a fatty base gave better results when the lesions were primarily scaly or eczematoid.

But it was not until 1943 that E. L. Keeney published the definite laboratory study on the subject under the title, "The Fungistatic and Fungicidal Effect of Sodium Propionate on Common Pathogens". He found that sodium propionate in solutions of various strength, ranging from 0.0125 per cent to 2 per cent, adjusted to a pH of 5.5, was fungistatic for a host of fungus infections of the skin—including, of course, athlete's foot, ringworm of the scalp, barber's itch, jock-strap itch—and numerous other common infections of the skin, hair and nails.

Enlarging upon this, Keeney tested an entire series of fatty acids in the test tube against a representative number of micro-organisms. It was found that while sodium propionate at pH 5.5 compared favorably with the sodium salts of other fatty acids, in a number of instances stronger concen-

trations were necessary to kill fungi with sodium propionate than with other salts. On the other hand again, sodium propionate proved relatively less toxic than some of the other fatty acid salts, as shown by the table below.

In 1944, Keeney and his associates narrowed their bacteriological studies to the two most promising fungicidal fatty acids, propionic and undecylenic, comparing them to the standard fungicidal and bactericidal compounds popularly used in the treatment of mycotic infections such as athlete's foot. Using an agar cup-plate technique with the extra-resistant pathologic fungus *T. mentagrophytes* Dr. Keeney and his co-workers found that propionate-propionic acid excelled all other materials tested, not only as a fungicide but also as a bactericide, as shown by the following table: (See Page 128).

The Comparative Toxic Effect of Fatty Acid Salts on Mice

(Keeney, E. L., Ajello, L. and Lankford, E.: Studies on Common Pathogenic Fungi and on Actinomyces Bovis, Bull. Johns Hopkins Hospital, 75: 377-392, Dec., 1944)

Compound	No. Mice	Daily Intra-peritoneal dose	DEATH-DAYS OF INJECTION																										Survivals	
			1	2	3	4	5	6	7	8	9	10	11	13	16	18	20	24	27	28	30	60	90	No.	%					
Sodium propionate	5	5																							5	100				
	10	5																						10	100					
	5	10			2		2			1														0	0					
	10	15		6	1	1		2																0	0					
Sodium valerate	5	1																							5	100				
	5	5																							5	100				
	5	10																							5	100				
	5	15																							5	100				
	5	25																							5	100				
	5	50	1	1										1											2	40				
Sodium caproate	5	1																							5	100				
	10	5																							10	100				
	10	10																						4	60					
	10	15																						2	80					
	10	25																							10	100				
	10	50																							10	100				
Sodium caprylate	5	1																							5	100				
	10	5																							10	100				
	10	10			1	1	1	3	1	2			1												0	0				
	10	15			1	2	6	1																	0	0				
Sodium caprate	5	1																							4	80				
	10	5																							2	20				
	10	10			1	3	5	1				1				1	2	1	1	1					0	0				
	10	15			6	2		1	1																0	0				
Sodium undecylenate	5	1																							5	100				
	10	5																							2	20				
	10	10			4		2	4												1	1	3			0	0				
	10	15	1	1	1	4	2				1														0	0				

Table Demonstrating the Fungistatic and Antibacterial Effects of Various Ointments in Vitro, by the Agar Cup-Plate Technique

(Keeney, E. L., Ajello, L., Broyles, E. N. and Lankford, E.: Propionate and Undecylenate Ointments in the Treatment of Tinea Pedis and an In Vitro Comparison of Their Fungistatic and Antibacterial Effects With Other Ointments, Bull. Johns Hopkins Hospital, 75: 417-439, Dec., 1944.)

	pH	Zone of Inhibition For		
		<i>T. mentagrophytes</i> after 96 hrs.	<i>Staphylococcus aureus</i> after 48 hrs.	<i>B. Hem-strep</i> after 24 hrs.
		Cm	Cm	Cm
Propionate-propionic acid	5.5	6.5	2.5	2.8
Undecylenate-undecylenic acid 10%	5.5	6.0	1.6	2.4
Undecylenate-undecylenic acid 5%	6.5	5.3	1.8	2.2
Whitfield's—full strength	3.5	3.7	1.4	2.3
Whitfield's—one-half strength	4.0	3.5	1.2	1.9
Ammoniated mercury 10%	5.5	3.3	2.2	1.9
Sulfathiazole 5%	5.5	2.8	3.0	2.1
		(partial)	(partial)	
Tyrosine 0.5%	6.0			1.0

Keeney and his associates also demonstrated, by in vitro experiments, that the propionate ointment was as effective as penicillin against beta hemolytic streptococcus. The much lesser effectiveness of Whitfield's ointment and ammoniated mercury, which have been among the fungicidal standbys of the past, is very obvious from the above chart. Additional clinical tests conducted by Keeney and associates established further the effectiveness of the propionate-propionic acid product as follows:

One hundred and twenty midshipmen of the United States Naval Academy with clinical evidence of *tinea pedis* (athlete's foot) formed the basis for a comparison between the propionate-propionic acid ointment and undecylenate-undecylenic acid ointment. After one week's treatment, 34 per cent of the men treated with the propionate product were clear of athlete's foot except for scaling while 63 per cent were clear after three weeks.

In the undecylenic group, 25 per cent were clear after one week's treatment and 33 per cent after three weeks (except for scaling). The scaling was disregarded as not necessarily a criterion of infection. When the treatment was long continued, there was apt to be a "backsliding" due to carelessness of the men in following instructions.

A MORE complete clinical study in the treatment of fungus infections of the skin was conducted by Keeney and Broyles in 1943. This study specifically considered seven of the most common mycoses: *Tinea pedis* (athlete's foot), *Tinea cruris* (jock strap itch), *Tinea glabrosa* (fungus infection of the un-haired skin), *Otomycosis* (fungus infection of the ear canal), *Thrush* (a fungus infection of the mouth in an infant), *Tinea capitis* (ringworm of the scalp) and one resistant case of *cutaneous actinomycosis*. The results of treatment were measured both by clinical condition and by the

presence or absence of organisms as demonstrated by cultures made from scrapings of the affected parts.

1. *Tinea pedis* (Athlete's foot): Fifty-five midshipmen were treated for athlete's foot. The degree of infection varied from minor to advanced. The feet were washed each night with soap and water and then dried thoroughly. The propionate ointment was rubbed well into the skin between the toes and the soles of the feet. The following morning the feet were washed again and, after drying, propionate powder was dusted between the toes and the soles of the feet. The table below shows the clinical effects:

Summary

In the group of minimal lesions, all the slides of fungus material were negative and all cultures sterile after four weeks of treatment.

In the minimal group 9 per cent were clear after two weeks' treatment, 50 per cent were clear after four weeks, 82 per cent after eight weeks and 100 per cent after sixteen weeks.

In the group of moderately advanced lesions after four weeks of treatment, two cases persisted in showing positive slides and from one a culture of *T. Purpureum* could still be obtained.

In the moderately advanced group, 11 per cent were clear and 68 per cent were improved after two weeks' treatment, 59 per cent were improved and 24 per cent were clear after four weeks, 11 per cent were improved and 72 per cent were clear after eight weeks, 77 per cent were clear and 15 per cent unchanged after twelve weeks and 8 per cent recurred and 94

Effectiveness of Propionate Ointment and Powder in the Treatment of Athlete's Foot (Keeney, E. L. and Broyles, E. N.: Sodium Propionate in the Treatment of Superficial Fungous Infections, Bull. Johns Hopkins Hospital, 73: 479-497, Dec., 1943)

No. of Cases	Types of Cases	After 2 wks. [*] Treatment						After 4 wks. [*] Treatment						After 8 wks. [*] Treatment						After 12 wks. [*] Treatment					
		No. Ca.	W	Cond. in %		C	R	No. Ca.	W	Cond. in %		C	R	No. Ca.	W	Cond. in %		C	R	No. Ca.	W	Cond. in %		C	R
17	Minimal ..	13	0	8	84	8	0	10	0	0	50	50	0	15	0	0	18	82	0	10	0	0	10	70	20
22	Mod. Advan.	19	5	16	68	11	0	17	0	0	59	24	17	17	0	0	11	72	17	13	0	15	0	77	8
16	Advan.	13	7	8	54	31	0	10	0	0	56	44	0	11	0	0	10	90	0	9	0	0	0	78	22
W—Worse		S—Same		I—Improved		C—Clear		R—Recurred																	

W—Worse S—Same I—Improved C—Clear R—Recurred

per cent were clear after sixteen weeks.

In the group with advanced lesions after four weeks of treatment, one case persisted in showing a positive slide for fungus material and a culture of *T. Purpureum*. There were further improvements after eight, twelve and sixteen weeks. After sixteen weeks, the men became careless in following the routine of treatment, so that some recurrences were noted.

In the advanced group after two weeks 54 per cent were improved and 31 per cent were clear; after four weeks 56 per cent were improved and 44 per cent were clear; after eight weeks 10 per cent were improved and 90 per cent were clear, after twelve weeks, 78 per cent were clear and 22 per cent recurred. After sixteen weeks, there were some recurrences due to carelessness in following routine.

After twenty weeks of treatment, one positive slide for fungus material was obtained in each of the groups and only one positive culture was obtained.

2. *Tinea cruris* (Jock-strap itch): Twenty-three midshipmen were treated for twelve weeks. Cultures of *Epidermophyton inguinale* were obtained from 9 out of 13 cases. The propionate ointment (10 per cent sodium propionate) was rubbed into the affected areas of the skin every night. In the morning, the ointment was removed and the affected parts dusted liberally with powder (sodium propionate). Activities and wearing apparel were not limited.

Summary

After two weeks' treatment, 35 per cent were cured, 59 per cent were improved and five per cent were unchanged.

After four weeks' treatment 69 per cent were cured and 9 per cent were the same.

After eight weeks, 77 per cent were cured, 14 per cent were improved and 4.5 per cent were unchanged or had recurred. In every case of recurrence, the patient failed to observe the scheme of treatment.

After twelve weeks of treatment, 91 per cent of the cases were cured and the remaining 9 cases showed only a slight trace of the infection.

Cultures were negative except in three patients after four weeks of treatment.

After eight to twelve weeks' treatment, all slides were negative and all cultures sterile.

3. *Otomycosis* (Fungus infection of the ear canal): Two patients with otomycosis who had been treated unsuccessfully at Johns Hopkins with thymol, cresatin and 2 per cent salicylic acid in 90 per cent alcohol had their infections inhibited completely by a 1.25 per cent solution of sodium propionate adjusted at pH 5.5. Three times each week, the external auditory canals were cleaned and then swabbed with 10 per cent aqueous solution of sodium propionate adjusted at pH 5.5. In addition a case of otomycosis due to *Aspergillus niger* was treated with sodium propionate. Cultures became sterile but the condition of the eczema remained unaltered.

4. *Thrush* (Fungus infection of the mouth in an infant): A case of thrush in a three months old infant due to *Monilia albicans* was treated with 20 per cent aqueous solution of sodium propionate adjusted at pH 7.0. The infant was well after seven days of treatment and cultures were sterile.

5. *Tinea glabrosa* (Fungus infection of the unbaired skin): Two patients with *tinea glabrosa* were treated in part by sodium propionate and by tincture of iodine. Although the lesions treated with tincture of iodine improved more rapidly, this medicament made the skin dry and irritated, while the skin treated with sodium propionate was normal. After three weeks of treatment, "Sopronol" ointment was found superior and substituted for the iodine treatment. Cultures taken from lesions were sterile after four weeks.

6. *Audouini Infection*: A case of fungus infection by *Microsporum audouini* was treated three times daily with sodium propionate ointment (right cheek). After five days of treatment, the lesion had disappeared.

7. *Tinea capitis* (Ringworm of the scalp): Three cases of *tinea capitis* due to *Microsporum audouini* were treated with sodium propionate ointment. After seven weeks, 2 of 3 children were reported to be free of lesions. The third child was not improved.

8. *Actinomycosis*: A patient with actinomycosis of the tongue was treated by dusting pure sodium propionate powder under the under surface of the tongue three times daily. The growth which had resisted all other treatment disappeared in two weeks and did not recur within six months. In none of 376 patients was there any evidence of irritation or allergy.

The propionate solution or ointment is applied directly to the areas affected in sufficient amount to make contact with all infected surfaces. Daily bathing of the affected parts together with additional therapeutic treatments (permanganate or liquor cresolis soak) may be indicated at the discretion of the physician. The use of keratolytics such as Whitfield's ointment may be considered at the start of treatment to expedite contact of the fungicide with the infected surface by removal of scales and debris. Mechanical debridement and surgical opening of visicles may also be a necessary adjunct to effective treatment.

After thorough drying of parts, the powder may be dusted on where

(Turn to Page 143)

After 16 wks. Treatment						After 20 wks. Treatment					
No.	Ca.	W	Cond. in %	C	R	No.	Ca.	W	Cond. in %	C	R
		S	I					S	I		
12	0	0	0	100	0	8	0	0	0	88	12
17	0	6	0	94	0	14	0	0	0	79	21
10	0	0	30	70	0	8	0	0	0	75	25

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ROACH POWDER

DDT formula improved by the addition of "Lethane A-70" to improve knockdown. A discussion of combination roach powders

BY

R. B. Schwitzgebel

Rohm & Haas Co.



DURING 1944 a new organic thiocyanate, "Lethane A-70", (90 per cent beta, beta, di-thiocyanodiethylether) was introduced as a toxicant for "non-poisonous" roach powders. As reported in *Soap and Sanitary Chemicals* (May 1944), tests conducted by the manufacturer's research staff showed that its fast action and killing power equalled results obtained with pyrethrum and were superior to sodium fluoride. This new product received wide acceptance, especially in the small-package field, as shown by the fact that enough has been marketed to make several million pounds of finished roach powder.

When DDT became available during the latter part of 1945, it was incorporated in many roach powder formulas. Field tests have demonstrated that 10 per cent DDT roach

powder is effective but slow in action. The Cooperative Research Committee of the National Pest Control Association observed in their Third Progress Report that "DDT powder requires an added paralyzant so that a quicker knockdown of crawling insects, such as roaches, may be had." (*Soap and Sanitary Chemicals*, November 1945). The addition of "Lethane A-70" to roach powders based on DDT has been found to provide such a paralyzant. In a series of experiments, several formulas with combinations of "Lethane A-70" and DDT proved to be faster in action and more effective than 10 per cent DDT roach powders.

In these tests 10 per cent "Lethane A-70" and 10 per cent DDT were compared directly and with several combinations of the two materials. "Dicalite IG₂", one of the diato-

Testing insecticides against roaches. The aerosol is being released within a "Plexiglas" enclosure. Photo, courtesy of Rohm & Haas Company.

maceous earths, was used as the diluent in all the roach powder formulas tested during these studies. This material was found to have adequate bulk, good adhesive qualities, and no effect on the chemical stability of the toxicants. Additional unpublished data indicate that other diatomaceous earths, such as certain "Celites," are equally as good as the "Dicalites" as diluents for this type of roach powder.

Both American and German adult male roaches were used in these experiments. The rearing technique for the German species was designed to provide large numbers of adults of

the same age for each series of tests. Evaluation of the various roach powder formulas was made in two ways: the tower method and the tray method. The dusting towers which were employed to study the lethal effectiveness of the powders have been described previously (*Soap*, May 1944). The tower technique is widely used and permits reasonable accuracy in applying a uniform amount of powder to each test insect.

To study the comparative speed of action of the several formulas, the tray method was used. This technique was designed to simulate roach control under practical conditions. The wooden trays are three feet square, with glass sides three inches high. The floor of each tray is lined with clean bogus paper and a measured amount of roach powder sifted lightly on this lining. The treated portion approximates a circular area 12 inches in diameter in the center of the tray. Roaches were released within the treated area and allowed to pass through the powder. The rate of mortality effected by the several formulas was determined by counting the number of dead and moribund roaches in each tray at various intervals during the subsequent 24 hours.

Summaries of data obtained by the tower method are presented in Tables I and II. Data in Table I indicate that 10 per cent "Lethane A-70" effected roach mortality equal to 10 per cent DDT, whereas a combination of 5 per cent "Lethane A-70" and 5 per cent DDT was superior to both 10 per cent DDT and 10 per cent "Lethane A-70". The effect of adding various amounts of "Lethane A-70" to 10 per cent DDT is shown in Table II. A low dosage was used in this series of tests so that the results obtained with the several formulas might be clearly defined. These data show that the addition of as little as 2.5 per cent "Lethane A-70" to 10 per cent DDT substantially increases the effectiveness of the formula as compared to a 10 per cent DDT roach powder.

The roach powder formulae used in the tower tests were also subjected to a series of tests by the tray method, in order to obtain a critical

TABLE I—ROACH MORTALITY DATA

Test Procedure—tower method
Test insect—adult male German Roach (*Blattella germanica*)
Dosage: 175 mg.

Formula	No. Roaches Tested	Percent Mortality 48 hours after treatment
10% "Lethane A-70"	240	66
10% DDT	240	64
5% "Lethane A-70"—5% DDT	240	83

TABLE II—ROACH MORTALITY DATA

Test Procedure—tower method
Test insect—adult male German roach
Dosage: 100 mg.

Formula	No. Roaches Tested	Percent Mortality 48 hours after treatment
10% DDT	120	20
10% DDT+2.5% "Lethane A-70"	120	74
10% DDT+ 5% "Lethane A-70"	120	82
10% DDT+7.5% "Lethane A-70"	120	79

TABLE III—ROACH TIME MORTALITY DATA

Test procedure—tray method
Test insect—adult male German roach
Dosage: 250 mg.
100 roaches per test—6 replicates with each formula

Formula	Percentage mortality (dead and moribund) Exposure period (hours)			
	2	4	8	24
10% "Lethane A-70"	42	60	71	81
5% "Lethane A-70"+5% DDT	8	29	52	65
10% DDT	2	4	9	54

evaluation of the comparative speed of action of the various combinations. This study was more extensive than the tower test and involved the use of approximately forty-five hundred German and American roaches. Results of these tests, which are presented in Tables III, IV, V and VI clearly demonstrate the fast action of "Lethane A-70" as compared with DDT. A comparatively small amount of roach powder (250 mg.) was used in this series of tests so that the rate of mortality could be studied during a twenty-four-hour period.

It may be noted in Table III above that a 50 per cent mortality of German roaches was obtained in less than four hours with 10 per cent A-70; in eight hours with 5 per cent A-70 plus 5 per cent DDT; and in twenty-four hours with 10 per cent DDT. Another series of tray tests was conducted, comparing 10 per cent

DDT with three other formulas in which varying amounts of "Lethane A-70" were added to the DDT. In these tests a record was made of the dead and moribund roaches at intervals of one-half, one, two, four, eight, and twenty-four hours after the insects were introduced into the treated trays. Results of these tests are reported in Table IV. These data show that the rate of roach mortality varied directly with the amount of "Lethane A-70" in the formula. This fact was further substantiated with data obtained in tray tests with American roaches with a similar set of roach powders (Table V).

In another set of tray tests the dosage was increased to 500 mgs., in order to demonstrate the fast action of "Lethane A-70" as it would be likely to occur under conditions of actual use. It may be noted in Table VI that 94 per cent of the roaches were

TABLE IV—ROACH TIME MORTALITY DATA

Test procedure—tray method

Test insect—adult male German roach

Dosage: 250 mg.

One hundred roaches per test—3 replicates with each formula

Formula	Exposure period (hours)	Percentage Mortality (dead and moribund)					
		½	1	2	4	8	24
10% DDT		0	0	0	4	20	72
10% DDT+2.5% "Lethane A-70"		1	3	9	33	49	99
10% DDT+ 5% "Lethane A-70"		1	3	9	46	73	95
10% DDT+7.5% "Lethane A-70"		2	9	13	40	75	100
10% "Lethane A-70"		6	18	28	57	89	96

TABLE V—ROACH TIME MORTALITY DATA

Test Procedure—tray method

Test insect—adult male American roaches (*periplaneta americana*)

Dosage: 1 gram

Formula	Exposure—Hours	Percentage Mortality (Dead and Moribund)			
		1	2	4	8
10% "Lethane A-70"		4	8	24	58
10% DDT		0	0	10	38
10% DDT plus 5% "Lethane A-70"		4	16	58	82
10% DDT plus 7.5% "Lethane A-70"		6	14	58	94

TABLE VI—ROACH TIME MORTALITY DATA

Test Procedure—tray method

Test insect—adult male German roach

Dosage: 500 mg.

Formula	Exposure.. Period (minutes)	Percentage Mortality (Dead and Moribund)			
		15	30	45	60
10% DDT		0	0	0	0
10% DDT plus 5% "Lethane A-70"		12	31	58	94

paralyzed within one hour with the 5 per cent "Lethane A-70" 10 per cent DDT formula. During the same period 10 per cent DDT powder had no visible effect on the roaches.

The source of DDT in all tests involving this chemical was a dust containing 50 per cent by wt. DDT (technical, setting point 89° C. minimum) and 50 per cent pyrophyllite. The particle size of this dust was 90 per cent less than 5 microns mean diameter.

Toxicological tests have revealed another advantage of "Lethane A-70" as used in roach powders. It has a low order of toxicity to warm-blooded animals. Roach powders containing 10 per cent "Lethane A-70" as sole toxic agent are in terms of roach comparison about one-fifth as toxic as powders containing 5 per cent rotenone from derris or cube root. Such powders do not require a poison

label. When DDT is incorporated with "Lethane A-70" a suitable caution statement should be employed.

Summary

Roach powders based on DDT have proved effective in the field but are notably slow in action. The National Pest Control Association has reported that an added paralyzant is needed in the DDT formula to effect a quick knockdown for crawling insects. The fast action of "Lethane A-70" roach powder has become well known during the past two years. The potentialities of a roach powder formula involving both "Lethane A-70" and DDT prompted the initiation of an extensive series of tests to study the effectiveness and speed of action of combinations of these toxicants.

Results of tower tests with the German roach showed that the addition of as little as 2.5 per cent "Le-

thane A-70" to 10 per cent DDT substantially improved the formula. A combination of 5 per cent "Lethane A-70" and 5 per cent DDT was found to be superior to either toxicant when used alone at 10 per cent.

A critical analysis of the speed of action of several formulas was obtained by using the tray method. These tests demonstrated that the rate of roach mortality increased directly with the amount of "Lethane A-70" in the formula. Using a dosage to simulate field conditions, 94 per cent of the German roaches were paralyzed in sixty minutes with 5 per cent "Lethane A-70" plus 10 per cent DDT, while 10 per cent DDT alone produced no visible effects during the same period of time.

DDT in Controlling Fleas

DDT, when properly formulated, is very effective in controlling several species of fleas. DDT in aerosols will give only partial and temporary relief from flea infestations in the house. Dusts containing 10 per cent of DDT in diluents may be used directly on dogs and other animals, except cats, for controlling adult fleas. DDT in oil solutions and in emulsions is very effective against flea larvae, but should not be used on animals, because of the danger of burning them. Commercial dusts, solutions, emulsions, and suspensions containing DDT can be recommended for general use in and about buildings, in yards, and in other similar situations. H. H. Stage. U. S. Dept. Agr., Bur. Entomol. Plant Quarantine E-680, 4 pp. (1946).

Spraying Jungle Areas

Sprays containing 10 per cent DDT dispersed by airplane over jungle forest areas in the Panama Canal zone were highly effective against adult mosquitoes. Initial reductions of 98-100 per cent were obtained, but treated areas were reinfested in 21 days. Larvae of *Anopheles* sp. and *Culex* sp. were controlled by aerial spraying. Systematic spraying of large areas is a potent weapon in malaria control, especially under military conditions. A. W. Lindquist and W. C. McDuffie, *J. Econ. Entomol.* 38, 545-8.

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basis of tests conducted by E. R. McGovran and L. D. Goodhue of this Bureau. Against mosquitoes the 0.4 per cent concentration in general was less effective at low dosages (1.61 mg. of pyrethrins per 1,000 cubic feet), but at higher dosages (12 mg. of pyrethrins per 1,000 cubic feet) there was no difference in effectiveness between the two formulas. Results against houseflies were not conclusive, owing to the relative ineffectiveness of pyrethrum aerosols against this insect.

It is concluded from these and subsequent tests that, at the recommended dosage of 3 grams of total aerosol (12 mg. of pyrethrins) per 1,000 cubic feet, 0.4 per cent of pyrethrins and 8 per cent of sesame oil may be used successfully to control the common malaria mosquito.

Tests with DDT Using Various Auxiliary Solvents.— Since dichlorodifluoromethane will dissolve only a slight amount of DDT, it is necessary to use an auxiliary solvent in preparing solutions of DDT in this gas. Obviously this solvent must not only dissolve a high percentage of DDT, but it must be soluble in dichlorodifluoromethane. It must also be nontoxic and non-irritating.

Preliminary tests indicated that at least 5 per cent of DDT was required in an aerosol to give results against mosquitoes comparable with those obtained with pyrethrum. Tests were therefore made to determine the relative effectiveness of 5 per cent DDT aerosols prepared with various auxiliary solvents. Before a more precise technique was developed, difficulty was encountered in obtaining uniform dosages of DDT. In these tests the average rate of application of DDT ranged from approximately 21 to 27 mg. per 1,000 cubic feet. The results are presented in table 1.

In all respects cyclohexanone proved to be the most satisfactory and effective auxiliary solvent for DDT. It will dissolve a high percentage of DDT, its odor is not unpleasant, and its use causes no discomfort. Its only disadvantage is that it is also a good solvent for lacquers and plastics, and some damage to such materials through careless use of aerosols containing 10 per

Table 1. Comparison of DDT aerosols containing various auxiliary solvents in tests against mosquitoes and houseflies. From 75 to 100 insects used in test with each aerosol solution.

Auxiliary Solvent ^a	Dosage of DDT Mg. per 1,000 cu. ft. ber	Tests Num- ber	<i>Anopheles quadrimaculatus</i> Knockdown in			<i>Musca domestica</i> Knockdown in		
			10	2	Kill in	10	2	Kill in
			Mins.	Hrs.	24 Hrs.	Mins.	Hrs.	24 Hrs.
			Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
Velsicol AR-60 ^b	20.3	7	1	16	47	..	..	..
Tetralin	21.0	4	3	..	40	4	0	96
Kopper's solvent (K-32 solution)	22.8	6	2	..	50	5	1	95
Dimethyl phthalate	21.9	4	3	33	62	4	0	72
Dibutyl phthalate	27.2	4	2	33	88	4	0	77
Benzyl benzoate	27.4	5	3	47	89	4	0	68
Dibutyl phthalate 5% cyclohexanone 5%	22.1	9	1	61	77	3	0	60
5%	22.2	4	0	7	52	..	..	..
10%	24.4	19	2	28	62	18	0	30
15%	21.1	4	1	12	63	..	..	..

^a 10 per cent of auxiliary solvent was used except where otherwise indicated.

^b An alkyl naphthalene.

cent of this material has been reported.

Benzyl benzoate and dibutyl phthalate gave a higher kill than was obtained with cyclohexanone, but the average dosage was higher with these two materials. The low volatility of these solvents produces wetter droplets of the insecticide, which may also have contributed to higher mortality. However, benzyl benzoate produces an aerosol which is extremely irritating, whereas dibutyl phthalate dissolves such a low concentration of DDT that it cannot be considered promising from a practical standpoint.

Comparison of Various Dosages of the DDT-Cyclohexanone Aerosol.— Because of the favorable properties of cyclohexanone, a solution containing 5 per cent of DDT and 10 per cent of cyclohexanone in dichlorodifluoromethane was chosen as the basic DDT formula. This formula was therefore used to study the relative effectiveness of various dosages of DDT. The results are shown in table 2.

In the tests against mosquitoes there is an abrupt rise in mortality with a slight increase in dosage at the lower

dosages, but the mortality tends to level off as the higher dosages are approached. There are no records for the lowest dosage against houseflies, but the mortality approximates 100 per cent at a much lower dosage than in the case of mosquitoes. The 2-hour knockdown of houseflies increases proportionately with the increase in dosage.

Comparison of Pyrethrum and DDT Aerosols.—The effectiveness of an aerosol containing 5 per cent of DDT plus 10 per cent of cyclohexanone was compared with that of the pyrethrum aerosol containing 0.4 per cent of pyrethrins and 8 per cent of sesame oil. In these tests knockdown and kill were studied at three dosages of the aerosol solution—(1) the dosage recommended for practical application, which is approximately 3 grams of total solution per 1,000 cubic feet; (2) one-half the recommended dosage; and (3) a sublethal dosage, equivalent to one-eighth the recommended dosage. The results are summarized in table 3.

At the sublethal dosage the pyrethrum aerosol was somewhat more toxic than DDT to mosquitoes, and

Table 2. Effectiveness of various dosages of the 5 per cent DDT-10 per cent cyclohexanone aerosol against mosquitoes and houseflies. From 75 to 100 insects of each species used in each test.

Dosage of DDT Mg. per 1,000 cu. ft.	Tests Number	<i>Anopheles quadrimaculatus</i> Knockdown in			<i>Musca domestica</i> Knockdown in		
		10 Mins.	2 Hrs.	Kill in 24 Hrs.	10 Mins.	2 Hrs.	Kill in 24 Hrs.
		Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
20	8	3	45	54
24	19	2	28	62	0	30	98
42	5	0	51	81	0	55	100
81	3	1	94	98	0	95	100

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Table 3. Comparison of the effectiveness against mosquitoes and houseflies of 0.4 per cent pyrethrum-8 per cent sesame oil and 5 per cent DDT-10 per cent cyclohexanone aerosols when applied at various dosages. From 75 to 100 insects were used in each test.

Aerosol and Dosage	Dosage of Active Ingredient	Tests	Anopheles quadrimaculatus			Musca domestica		
			Knockdown in		Kill in	Knockdown in		Kill in
			10 Mins.	2 Hrs.	24 Hrs.	10 Mins.	2 Hrs.	24 Hrs.
	Mg. per 1,000 cu. ft.	Number	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
Sublethal:								
Pyrethrum-sesame oil	1.7	14	60	83	79	..	..	..
DDT-cyclohexanone	24.4	19	2	28	62	0	30	98
One-half recommended:								
Pyrethrum-sesame oil	6.5	7	99	99.6	100	57	24	13
DDT-cyclohexanone	85.25	8	7	92	98	5	98	100
Recommended:								
Pyrethrum-sesame oil	11.9	9	99	100	100	88	61	11
DDT-cyclohexanone	151.5	9	19	100	97	39	100	100

produced a much greater knockdown. As the dosage was increased the difference in kill of mosquitoes became less until at the recommended dosage 100 per cent mortality was obtained with both pyrethrum and DDT. The pyrethrum aerosol at all dosages gave a far superior knockdown rate, although at the highest dosage the 2-hour knockdown was 100 per cent with both the DDT and the pyrethrum aerosol.

Against flies the results differed greatly from those obtained against mosquitoes. The DDT aerosol gave from 98 to 100 per cent mortality of flies at all dosages, whereas the pyrethrum produced very little kill even at the highest dosage. The 10-minute knockdown was greater for the pyrethrum aerosol, but at the 2-hour reading pyrethrum-treated flies showed a high recovery whereas a large percentage of those exposed to DDT were knocked down.

These results were substantiated repeatedly in later tests in which the same two formulas were used as standards of comparison in testing other formulas. Thus it is apparent that at the higher dosages pyrethrum aerosols have the advantage over the 5 per cent DDT formula giving a much higher immediate knockdown of mosquitoes and a slightly greater 24-hour kill. On the other hand, the DDT aerosol is far more effective than pyrethrum against houseflies, although pyrethrum possesses superior knockdown properties.

Effect of Adding Pyrethrum to the DDT Aerosol.—Since DDT lacks the desirable knockdown properties inherent in pyrethrum, 0.2 per cent of

pyrethrins was added to the basic 5 per cent DDT formula. The results of tests comparing this combination with the newly adopted pyrethrum aerosol are presented in table 4. These records show that both the desirable knockdown properties of pyrethrum and the superior toxic action of DDT against houseflies are obtained by this formula with an appreciable saving in the amount of pyrethrins.

Effect of Adding Oils to Pyrethrum and DDT Aerosols.—Sesame oil was included in the original aerosol formula because it was believed to be an activator for the pyrethrins (Sullivan *et al*, 1942). The results of early tests comparing the effectiveness of an aerosol containing 0.4 per cent of pyrethrins, alone and in combination with sesame and other vegetable oils are presented in table 5. In this series methyl chloride was used as the carrier

gas, since some of the oils were not miscible with dichlorodifluoromethane. The use of methyl chloride is restricted as it is somewhat toxic to man. The aerosols were discharged from a special dispenser, described by McGovern *et al*, 1943, at the rate of 1.61 mg. of pyrethrins per 1,000 cubic feet.

Against mosquitoes the formulas containing soybean or peanut oil were just as effective as that containing sesame oil, and the formula containing corn oil was slightly more effective. With houseflies the usual low kills prevailed in all cases, but the corn oil combination gave the best results. The record obtained with pyrethrins alone shows that the oils increase the effectiveness of the pyrethrins to a marked extent.

Further tests comparing the effects of adding various oils, including sesame, to pyrethrum and DDT aerosols are summarized in table 6. In this series of tests it was found that either corn oil or motor oil was essentially as effective as sesame oil in the pyrethrum aerosol when used at a concentration of 8 per cent. When the concentration of motor oil was increased to 18 per cent, however, the effectiveness of the aerosol was decreased. In a series of tests in which formulas containing sesame and motor oil were compared at one-half the recommended dosage, an identical kill of 94 per cent was secured on mosquitoes. All the oils also increased the effectiveness of the DDT aerosol, although the increase was not

Table 4. Comparative effectiveness against mosquitoes and houseflies of the 5 per cent DDT-10 per cent cyclohexanone aerosol to which 0.2 per cent of pyrethrins were added and the regular pyrethrum aerosol. From 75 to 100 insects of each species used in each test.

Aerosol and Dosage	Aver. Dosage per 1,000 cu. ft. Pyrethrins DDT	Tests	Anopheles quadrimaculatus			Musca domestica		
			Knockdown in		Kill in	Knockdown in		Kill in
			10 Mins.	2 Hrs.	24 Hrs.	10 Mins.	2 Hrs.	24 Hrs.
	Mg.	Number	Per Cent	Per Cent	Per Cent	Number	Per Cent	Per Cent
Sublethal:								
Pyrethrum-sesame oil	1.7	14	60	83	79	..	..	..
DDT-cyclohexanone plus pyrethrins	1.0	26.3	6	9	48	85	4	0
One-half recommended:								
Pyrethrum-sesame oil	5.6	10	99	100	100	10	78	12
DDT-cyclohexanone plus pyrethrins	3.2	75.0	9	77	99	100	9	75
Recommended:								
Pyrethrum-sesame oil	11.9	9	99	100	100	11	98	66
DDT-cyclohexanone plus pyrethrins	5.1	147.0	10	91	99	100	12	91

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so great with sesame as with the others.

These tests show that certain vegetable oils or motor oils may be substituted satisfactorily for sesame oil in the pyrethrum aerosol formula, and that the addition of such oils increases the effectiveness of DDT in aerosol form. Apparently the relationship between the oils and the insecticides is physical rather than chemical. It is possible that the oils may cause better contact with the insect. Since motor oil is just as effective as vegetable oils in this respect, its use would be more practical and economical.

Sex Resistance.—Since female mosquitoes are usually more resistant to insecticides than males, a series of tests were made using both DDT and pyrethrum formulas to determine whether the same relative resistance was exhibited toward aerosols by both sexes. The males were found to be less resistant, but in some cases, particularly with the standard pyrethrum and DDT formulas, the difference in mortality was very slight. No tests were made of the relative resistance of male and female houseflies to aerosols.

Aerosol Tests with Other Insecticides.—Since *Thanite* (isobornyl thiocyanacetate) and *Lethane 384 Special* (mixture of 3 parts of beta-thiocyanoethyl esters of aliphatic acids, and 1 part of beta-butoxy-beta-thiocyanodiethyl ether) have been used extensively in fly sprays in recent years, a number of tests were made with these insecticides in aerosols. *Thanite* alone at the high dosage rate of 300 mg. per 1,000 cubic feet gave a 94 per cent knockdown of mosquitoes, but the 24-hour kill was only 59 per cent. The knockdown of houseflies was 59 per cent, but the kill was only 46 per cent, or about that which would have been obtained with DDT alone. Against houseflies this combination gave only 9 per cent knockdown whereas the kill was only slightly greater than would have been obtained with DDT. *Lethane 384 Special* alone gave no knockdown and practically no kill of either mosquitoes or houseflies at the high dosage rate of 50 and 100 milligrams per 1,000 cubic feet. Furthermore, the addition of various concentrations of this mate-

Table 5. Comparative effectiveness against mosquitoes and houseflies of various vegetable oils in the pyrethrum aerosol (0.4 per cent pyrethrins). From 75 to 100 insects of each species use in each test.

Oil	<i>Anopheles quadrimaculatus</i> Knockdown in				<i>Musca domestica</i> Knockdown in			
	Tests	10 Mins.	2 Hrs.	Kill in 24 Hrs.	Tests	10 Mins.	2 Hrs.	Kill in 24 Hrs.
	Number	Per Cent	Per Cent	Per Cent	Number	Per Cent	Per Cent	Per Cent
None	3	30	72	48	1	2	0	2
Sesame	6	38	90	66	3	3	1	16
Soybean ¹	6	41	91	66	3	0	0	9
Peanut ¹	6	49	87	63	3	2	0	19
Corn ¹	6	61	86	73	3	1	0	22

¹ Refined grade.

rial did not increase the effectiveness of DDT. It is concluded, therefore, that when applied in aerosol form *Thanite* and *Lethane 384 Special* are not very effective against mosquitoes and houseflies.

Summary.—In laboratory studies to find substitutes or adjuvants for pyrethrum in aerosols promising results were obtained with DDT.

Since DDT is only slightly soluble in dichlorodifluoromethane, it was necessary to find an auxiliary solvent. Cyclohexanone was considered the best tested, from the viewpoint of availability, cost, odor, nonirritating properties, and nontoxicity to humans. Five per cent of DDT plus 10 per cent of cyclohexanone in an aerosol formula was found to cause a 24-hour mortality of *Anopheles quadrimaculatus* Say close to that obtained with a pyrethrum aerosol containing 0.4 per cent of pyrethrins and 8 per cent of sesame

oil, and was far superior to the pyrethrum aerosol against houseflies.

In comparison with pyrethrum, DDT gave slower knockdown of both mosquitoes and flies. In contrast, however, a large percentage of flies recover after exposure to pyrethrum while recovery seldom occurs after exposure to DDT. The recovery of mosquitoes from exposures to either DDT or pyrethrum is negligible.

In order to increase the speed of knockdown of the 5 per cent DDT formula, 0.2 per cent of pyrethrins was added. The combination proved to be highly effective against both mosquitoes and flies.

Tests with various vegetable and mineral oils as possible substitutes for sesame oil showed that corn oil and motor oils can be used effectively in the pyrethrum aerosol. The addition of motor oil also increases the effectiveness of DDT.

Table 6. Effectiveness against mosquitoes and houseflies of pyrethrum and DDT aerosols containing various oils. Aerosols discharged at the rate of 1.61 mg. of pyrethrins or 20 mg. of DDT per 1,000 cubic feet. From 75 to 100 insects of each species used in each test.

Oil Used	Tests	<i>Anopheles quadrimaculatus</i> Knockdown in			<i>Musca domestica</i> Knockdown in		
		10 Mins.	2 Hrs.	Kill in 24 Hrs.	10 Mins.	2 Hrs.	Kill in 24 Hrs.
	Number	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
Pyrethrum aerosols:							
Sesame oil 8%	15	62	89	71	7	0	12
Corn oil ¹ 8%	6	65	82	65	3	0	9
Motor oil ² { 8%	14	76	75	66	3	0	6
{ 18%	5	33	42	48	1	1	3
DDT aerosols:							
None	12	6	14	45	0	14	83
Sesame oil 5%	6	2	23	47	0	11	89
Corn oil ¹ 5%	6	5	32	54	0	21	94
Motor oil ² { 5%	12	4	36	64	2	22	92
{ 10%	6	10	21	60	0	34	93
{ 15%	6	14	23	67	0	28	92

¹ Technical grade.

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Studies on the possible use of *Thanite* or *Lethane 384 Special*, either as a substitute for pyrethrum or in combination with DDT, showed that the large amount of these insecticides required for adequate knockdown or kill were not practical in an aerosol formula.

Literature Cited

- Lindquist, A. W., B. V. Travis, A. H. Madden, H. O. Schroeder, and H. A. Jones. 1945. DDT and pyrethrum aerosols to control mosquitoes and houseflies under semi-practical conditions. *Jour. Econ. Ent.* 38(2):255-7.
McGovran, E. R., J. H. Fales, and L. D. Goodhue. 1943. Testing aerosols against houseflies. *Soap and Sanit. Chem.* 19(9):99, 101, 103, 105, and 107.

ATHLETE'S FOOT

(From Page 129)

dry medication is desired. To prevent re-infection with athlete's foot, the powder should be used prophylactically in shoes, slippers and stockings.

Bibliography

- Peck, S. M. and Schwartz, L.: A Practical Plan for the Treatment of Superficial Fungous Infections. U. S. Public Health Report, 58: 337-345 (Feb. 26) 1943.
Peck, S. M., Schwartz, L. and Botvinick, I.: Dermatomyces in Industry. *Arch. Derm. and Syph.*, 50: 170, 1944.
Keeney, E. L., Ajello, L., Broyles, E. N. and Lankford, E.: Propionate and Undecylanate Ointments in the Treatment of Tinea Pedis and an In Vitro Comparison of Their Fungistatic and Antibacterial Effects with Other Ointments. *Bull. Johns Hopkins Hospital*, 75: 417-439 (Dec.) 1944.
Keeney, E. L., Ajello, L. and Lankford, E.: Studies on Common Pathogenic Fungi and on *Actinomyces Bovis*. *Bull. Johns Hopkins Hospital*, 75: 377-392 (Dec.) 1944.
Keeney, E. L.: The Fungistatic and Fungicidal Effect of Sodium Propionate on Common Pathogens. *Bull. Johns Hopkins Hospital*, 73: 379-390 (Nov.) 1943.
Hoffman, C. Schweitzer, T. R. and Dalby, G.: Fungistatic Properties of the Fatty Acids and Possible Biochemical Significance. *Food Research* 4: 539-545, 1939.
Bruce, W. F.: Growth of Bacteria in Organic Acid Media. *J. Amer. Chem. Soc.*, 57: 382: 1935.
Manual of Clinical Mycology (Prepared Under the Auspices of the Division of Medical Sciences of the National Research Council), Saunders, Philadelphia, 1945.
Peck, S. M., Rosenfeld, H.: The Effects of Hydrogen Ion Concentration, Fatty Acids and Vitamin C on the Growth of Fungi. *J. Investigative Derm.*, 1: 237-265, 1938.
Peck, S. M., Rosenfeld, H., Leifer, W. and Bierman, W.: The Role of Sweat as

a Fungicide, with Special Reference to the Use of Constituents of Sweat in the Therapy of Fungous Infections. *Arch. Derm. and Syph.* 39: 126-146 (Jan.) 1939.

Sherman, J. M. and Shaw, R. H.: The Propionic Acid Fermentation of Lactose. *J. Biol. Chem.*, 56: 695, 1923.

Miller, F. W., Jr.: Retarding mold in cheese. *Natl. Butter and Cheese J.*, 31: 12-13, 38, 1940.

Irvine, O. R. and Sproule, W. H.: Mold Inhibitors for Cheese. *Can. Dairy and Ice Cream J.*, 19: 19-22, 66, 1940.

Ingle, J. D.: Some Prelim. Observations on the Effectiveness of Propionates as Mold Inhibitors of Dairy Products. *J. Dairy Science*, 23: 509, 1940.

Olson, J. C. and Macy, H.: Treatment of parchment wrappers with sodium and calcium propionates for the inhibition of mold growth on the surface of butter. *Assoc. Southern Agric. Workers, Proc. Annual Convention*, 43: 1922, 1942.

O'Leary, D. K. and Kralovec, R. D.: Development of B. mesentericus in Bread and control with calcium acid phosphate or calcium propionate. *Cereal Chem.*, 18: 730-741, 1941.

Macy, J.: Mold Inhibitors for Food Products. *Assoc. Food and Drug Officials, U. S. Quart. Bull.* 6: 9-12, 1942.

Kitajima, K. and Kawamura, J.: Antiseptic action of higher fatty acids against wood-attacking fungi. *Bull. Imp. Forestry Expt. Sta., Tokyo*, 31: 108-13, 1931.

Sulzberger, M. B., Editor: 1944 Year Book of Dermatology and Syphilology, 77-80.

Talbot, G. A.: The pH of Human Sweat. *Am. J. Phys.*, 61: 493-500, 1922.

Sharlit, H. and Scheer, M.: The pH at the surface of healthy unimpaired skin. *Arch. Dermat. and Syphilol.*, 7: 592-8, 1923.

Memmesheimer, A.: The pH at the Outer Surface of the Skin. *Klin. Wochenschrift*, 3: 2102, 1924.

Schade, H. and Marchionini, A.: The Acid Cloak of the Skin (Gas-chain measurements). *Klin. Wochenschrift* 7: 12-14, 1928.

Tekenburg, F.: Effect of Hydrogen Ions and Undissociated molecules on Bacteria. *Nederlandsch Tijdschrift Hyg. Microbiol.*, Serol. 2: 176-94, 1927.

Schade, H. and Marchionini, A.: Physical Chemistry of the Epidermis. *Archiv. fur Dermatologie und Syphilologie*, 154: 690-716, 1928.

Marchionini, A.: The hydrogen ion concentration of perspiration. *Klinische Wochenschrift*, 8: 924-6, 1929.

Mosher, H. H.: Simultaneous study of constituents of urine and perspiration. *J. Biol. Chem.*, 99: 781-90, 1933.

Antiseptics. D. Bach. *Bull. sci. pharmacol.*, 39: 499-504, 1932.

Rastelli, E.: The pH of skin in normal and pathological conditions. *Arch. ist. Biochem. ital.*, 5: 174-203, 1933.

Marchionini, A. and Hausknecht, W.: The acid coat of the skin and resistance to bacteria. I. Regional variations in the pH of the surface of the skin. *Klinische Wochenschrift*, 17: 663-6, 1938.

Cornbleet, T.: Self-sterilizing powers of the skin. III. Carbohydrate metabolism. *Arch. Dermat. and Syphilol.*, 26: 463-5, 1932.

Marchionini, A., Schmidt, R. and Kiefer, J.: III. The resistance of various

regions to bacteria and the disinfectant ability of the skin surface. *Klinische Wochenschrift*, 17: 736-9, 1938.

Keeney, E. L. and Broyles, E. N.: Sodium Propionate in the Treatment of Superficial Fungous Infections. *Bull. Johns Hopkins Hospital*, 73: 479-497 (Dec.) 1943.

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LECITHIN IN SOAP

(From Page 40)

(14) Eichberg, J.: *Drug & Cosmetic Ind.* 30:427, 1932.

(15) Scharf, A.: *New York Physician* 21:32, Aug. 1943.

(16) Gross, P. & Kesten, B.: *Arch. Dermatol. & Syphilol.* 47:159, 1943.

(17) Semrad, A.: *Barron's Weekly*, Sept. 20, 1943, p. 28.

(18) Davidsohn, J.: *Soap. Perf. & Cosmetics*, March 1940, p. 186.

(19) Thomssen, E. G. & Kemp, C. R.: "Modern Soap Making." New York, MacNair-Dorland, 1937, pp. 242-3.

(20) Glenn, J.: *Soap* 15:21, Sept. 1939.

(21) Braun, K.: *Deutsch. Parf. Ztg.* 21:238, 1935.

(22) Lederer, E. L.: *Seifensieder-Ztg.* 60:919, 1933.

(23) Valdivia, C. G.: *Bol. soc. quim. Peru* 4:103, 1938 (through) *J. Soc. Chem. Ind.* 57:1934, 1938.

(24) Inaba, T., Kitagawa, K. & Sato, M.: *J. Soc. Chem. Ind. Japan* 37:595, 1934 (through) *Chem. Abstr.* 29:1273, 1935.

(25) Jordon, J. W., Dolce, R. A. & Osborne, E. D.: *J. Am. Med. Assoc.* 115:1001, 1940.

(26) Sulzberger, M. B. & Baer, R. F.: in Fishbein's "Medical Uses of Soap," Philadelphia, Lippincott, 1945, pp. 43-5.

(27) Lesser, M. A.: *Soap* 21:25, May 1945.

(28) Eichberg, J.: Personal communication.

(29) Hadjopoulos, L. G. & Gaspe, S.: *J. Am. Pharm. Assoc.* 27:559, 1938.

(30) Caspe, S. & Hadjopoulos, L. G.: *Am. J. Pharm.* 110:533, 1938.

(31) Noble & Thorl G.m.b.H.: *Fr. Pat.* 788,632, 1935.

(32) Ges. f. Fitt-u.-Ol-Raffination: *Ger. Pat.* 666,208, 1938.

(33) Anon.: *Schimmel Briefs*, Jan. 1942, No. 82.

(34) Chilson, F.: "Modern Cosmetics," Ed. 2, New York, Drug & Cosmetic Industry, 1938, pp. 164-5, 168.

(35) Hanseatische Muehlenwerke A.-G.: *Ger. Pat.* 578,126, 1933.

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LINED SOAP DRUMS

(From Page 73)

of these new packages. To expedite the finding of suitable protective coatings to hold your product it is essential to submit a sample with information about the general chemical nature of the material, also the pH, packaging temperature, general storage conditions, expected length of storage, and method of emptying container.

Questions Answered by Dr. Ott

- Q. What is the life of linings in drums for liquid soap?
- A. It varies from several months to more than a year. What is liquid soap? Does it vary in composition? Do you have your own particular product with an additional agent? All of those things will affect the life of a drum lining. I don't think you can say definitely how long a drum lining will last. It all depends.
- Q. Are drum linings available now?
- A. Yes, we are making single coat linings now. Later we will be able to make multiple coat linings.
- Q. In testing of linings (performed in cups), I believe you do not consider any lining satisfactory for a given product without six months perfect operation in the laboratory. If a lining stands up satisfactorily under the six months test, should we assume that if it is applied properly to the drum, we could expect at least six months length of service from it in the finished container?
- A. I don't think so because we have realized in the "lab" that a test made in a test cup is an ideal test—probably too ideal. A cup does not get the bumps and bruises that a drum gets in practice. It might crack in freight cars, etc. We always advise that sample drums be made for the customer before we accept an order. Sometimes there isn't time for that, but in general we like to do it. As a rough figure, drum life of two-thirds probably would compare with cup test life.
- Q. In the two-coat drum is the second coat added to strengthen weak points?
- A. We recognize that you can't cover mishandling on the first coat, but by the proper application of your coating, where you test singly and then add the second coat, you should be able almost to predict what will happen. The vinyl type lining is usually put on in two coats and is more flexible than the phenolic type lining, which is put on in one coat. I think the two coat vinyl system would be better than the relatively brittle phenolic, but each lining has its own particular place and application.
- Q. What roughly is the cost of a single coat vinyl lining?
- A. The approximate cost of the lining for soap drums of 55 gal. is 55 cents. Two coats would be about double.

Q. How are the linings applied?

A. The drum lining is applied when the drum is in three parts—the shell and the two ends. After baking, the drum is assembled by a double-seaming operation, after which the exterior paint is applied. The drum is then given another baking to dry the outside coating. In that way we get complete coverage. The second bake is usually at a lower temperature, about 250° Fahrenheit. The inside lining is baked at from 350° to 400° Fahrenheit.

Q. You say it takes six months to determine cup tests. Do you run any accelerated tests?

A. Yes, however they are always open to the usual objection of accelerated tests. The tests we run are made at 140° F. This speeds up the testing about four or five times.

Q. What progress has been made, if any, by the use of tung oil for linings, or tung oil resins?

A. Tung oil is used in many resinous coatings. Its function is to give flexibility to the coating.

Q. Is there a resinous lining developed for fatty acids?

A. Yes, we can package fatty acids, some in single and some in double. I believe red oil requires double coating. Some of the other types can be done in single coat.

Q. You spoke about efforts that are being made to standardize the overall dimensions of drums or containers that are the same size. Is that being done by the industry as a whole or by some companies? Is there an association at work on that? How can any company in the Soap Association as a group or as an individual keep abreast of the progress that is being made?

A. The Steel Shipping Container Institute representing the industry is now engaged in standardizing dimensions for a given capacity. When you get your drums from different suppliers, you get different sizes. They are going to standardize on the rolling hoops, and the physical dimensions of the package eventually will be standardized.

Surface-active Agents

A new book dealing exclusively with surface-active agents presents the theoretical aspects of surface tension, its application to industrial fields, effects of surface-active agents, and the relation between surface tension and other physical properties of matter. The rest of the book deals with diverse branches of industries in which surface-active agents are used, and contains many typical formulas which will facilitate the formulation of emulsions and other products based on surface-active agents.

POTASH SOAPS VS. SYNTHETICS

(From Page 45)

rinsing with an equal amount of soap from the same laboratory glassware?

A. I think some of the synthetics will do a better job.

Q. Have you ever noticed the amount or number of times you have to add water to an Erlenmeyer flask to remove the suds. As a result of having the wetting agent in that glassware as compared with soap, it will take about four or five times the rinsing that soap requires.

A. I don't know why some of the synthetics keep giving suds on and on. At some point the detergent action ceases, but the suds keep going on and on. That is not a desirable characteristic of the synthetic product.

Q. What experience have you had in combining synthetics with shampoos?

A. We have tried a few experiments, and we find that we have to use other chemicals in conjunction with the synthetics to stabilize them, such as glycol, alcohol, or glycerine. Petroleum synthetics used in shampoos precipitate out in six or eight months. I cannot see the advantage if you have to take one thing and add another and then add something else because of the other addition.

Methods for the determination of surface tension are described. A comprehensive alphabetical list of wetting and other surface-active agents, giving also the chemical composition, industrial use, and name and address of the manufacturers, will prove of great value to chemists and other workers with these materials. The title of the book is "Surface Active Agents", the author C. B. F. Young and K. W. Coons; 381 pp., published by the Chemical Publishing Co. Brooklyn, N. Y., and sold for \$6.00.

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Follow this Guide

YOUR PROBLEM		FOR THESE INSECT PESTS				Specially for crawling insects such as cockroaches, ants, bedbugs, ticks, silverfish, lice.	
		Flies, ants, gnats, mosquitoes, fleas, ticks, wasps, cockroaches, carpet beetles, moths, silverfish, bedbugs, weevils, cadelle, and other stored product insects.					
YOUR PLACE OF USE		UNDER THESE CONDITIONS					
		On surfaces where wetting by water and visible residue are not objectionable.	On surfaces where wetting by water is not objectionable and visible residue is not desired.	On surfaces where wetting by water is objectionable and visible residue is not desired.	For large users who may wish to prepare their own spray mixtures by adding solvents.	On floors and baseboards, in cracks and crevices of woodwork, dark places behind pipes and other places insects infest.	
		USE	USE	USE	USE	USE	
YOUR PRODUCT		DEENOL 50-F Wettable powder; mix with water, use as spray. DDT—50%.	DEENOL 25-EM Emulsifiable oil; dilute with water, use as spray. DDT—25%.	DEENOL 5-H Ready-to-use oil spray. DDT—5%.	DEENOL 25-C Concentrated oil; dilute with a solvent, use as spray. DDT—25%.	DEENOL 10-A Ready-to-use dusting powder. DDT—10%.	



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DDT
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From Current Literature in the Sanitary Products Field

Synergists for Insecticides

Of the naturally occurring substances containing the methylene dioxyphenyl group, piperine and some of its amides and esters show outstanding toxicity to adult flies when used alone or when added to pyrethrum sprays. Used alone, sesamin and fagaramide show little toxicity but they enhance the toxicity of pyrethrum sprays. A number of additional compounds were synthesized which have synergistic effects with pyrethrum, for example, *alpha*-phenyl-beta-(3, 4-methylene dioxyphenyl) acrylonitrile. M. E. Synerholm and A. Hartzell. *Contrib. Boyce Thompson Inst.* 14, 78-89.

Techniques for Studies of DDT

The use of window traps for the determination of the subsequent kill of mosquitoes leaving rooms treated with DDT is discussed. To determine the residual toxicity of treated walls, insects placed in glass chambers are exposed to treated walls for specific time intervals and then held 48 hours for observation of mortality.

For testing the effect on adult mosquitoes of spray residues on various surfaces, panels having a total surface of 1 square foot are fitted into a wooden framework and adult mosquitoes are introduced into the exposure chamber formed by the panels. After known periods of time they are removed and held for 48 hours to determine mortality. Adult mosquitoes are transferred from chambers to cages by air currents. Each complete test requires approximately 15 minutes and

no injury to mosquitoes or spray residues is evident.

Uniform comparable results in replicated tests, and good correlation with field results have been obtained. The techniques employed in the laboratory testing of DDT as an anopheline larvicide are briefly described. S. W. Simmons et al. *Pub. Health Repts., Suppl. No. 186*, 3-20.

New Rat Poison Tested

The new rodenticide, *alpha*-naphthyl thiourea, a fine gray insoluble powder with little odor or taste, is accepted by rats in 1 per cent mixture with finely ground yellow corn. The poison has been tried successfully in 5 days: (1) in a 2-5 per cent mixture with finely ground corn or wheat; (2) as a spray or dust on ground grain or on fruits or vegetables such as diced apples or sweet potatoes; (3) as a dust by itself or mixed half and half with flour, placed on floors and runways; (4) as a dust on the surface of water; and (5) as a dust blown into burrows and holes with a standard cyanide gas dust pump. The compound kills rats by causing edema of the lungs. *Pharm. J.* 156, Jan. 12, 1946.

Mold Control

Compositions containing 6-nitro trichloro toluene are suitable for controlling fungi, insects, bacteria, molds and other noxious organisms which infest wallboard, rope, fabric, paint, paper, leather, etc. Other chloro nitrotoluenes may be used. The compositions may be fortified by addi-

tion of phenyl mercury oleate or other oil-soluble phenyl mercury compounds. A. L. Flenner and F. H. Kaufert, to E. I. du Pont de Nemours & Co., U. S. Patent No. 2,369,959.

Effect of DDT on Fish

The use of DDT as a larvicide for anopheline mosquitoes needs investigation before the product may be classed as harmless at larvicidal concentrations. Fish, crayfish, tadpoles, and large organisms generally seem to suffer no direct effect from a concentration of 0.1 pound per acre, which represents 0.3 p.p.m. in the first 3 inches of water, if the average depth is greater than 3 inches. An overall concentration of 0.25 p.p.m. from which escape is impossible produces some mortality of fish and other large organisms. Protozoa and algae are unaffected by concentrations up to 1.0 p.p.m. Concentrations as high as 1.0 p.p.m. become nontoxic in less than 6 days to the above organisms in shallow waters. None of the carriers or dispersing agents used for DDT was toxic at the concentrations used. J. B. Lackey and M. L. Steinle. *Pub. Health Repts., Suppl. No. 186*, 80-9.

Moth Killer

A composition especially suitable for the protection of woollen materials from moths consists of 1,2,4-thiodiazole admixed with one or more powdered carriers or aqueous diluents or insect bait material. E. I. du Pont de Nemours & Co., to Imperial Chemical Industries Ltd. British Patent No. 559,260; through Chem. Abs.

Toxicity of DDT to Bedbugs

DDT deposited on surfaces in an oil film is more toxic to bedbugs than in a dry film. Volatility of the medium in which DDT is applied contributes to the toxicity of dry films. Contact for about one hour is lethal. This period is constant for any kind of DDT-treated material. Persistence of toxicity varies with the nature of the treated surface. DDT-coated cement, plain wood, and glass killed approximately 80 per cent of the bugs, and the films were active

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for 6 months. Old painted wood surfaces were highly toxic for 1 month, then lost their toxicity quickly. Newly painted surfaces lost much of their effectiveness within 48 hours. On glass, films gave only 76 per cent kill three months after application.

The minute crystals of DDT deposited on the surface are responsible for toxicity; large crystals are without marked toxic action. Solvents that deposit very small crystals should therefore prove most economical. On smooth surfaces even small crystals of DDT do not withstand household operations. Rubbed treated surfaces can be renewed by application of a fine oil film. Pyrethrum is much more toxic to bedbugs than DDT, but as residual sprays, the latter compounds are far more effective. S. Barnes. *Bull. Entomol. Research* 36, 273-82.

Control of Mite Infestations

Beta, beta'-Dithiocyano diethyl ether readily killed mites when dusted into the hair of experimental animals but did not kill the eggs or larvae. The toxicity is low so that the compound should be useful as an insecticide for this treatment. Animals that lick their fur cannot be treated with DDT. F. H. J. Figge and G. F. Wolfe. *Proc. Soc. Exptl. Biol. Med.* 60, 136-8.

Pyrethrin Analysis

In the mercury reduction method for the determination of pyrethrin I in pyrethrum powder and pyrethrum extracts in mineral oil, it is recommended that the reduction be carried out at 25°C. for a period of 1 hour, and that the factor used be 1 ml. of 0.01 Molar potassium iodate equal to 5.7 milligrams of pyrethrin I. J. J. T. Graham. *J. Assoc. Official Agr. Chem.* 28, 571-5 (1945).

Mothproofing Composition

A mothproofing composition contains magnesium silicofluoride and a lower alkanolamine silicofluoride such as ethanolamine silicofluoride, in the ratio of about 1-3 to 1. H. I. Jones. Canadian Patent No. 432,545.

DDT in Aquatic Use

In laboratory tests, DDT concentrations greater than 0.1 ppm. were toxic to goldfish. In field tests, DDT in dusts and in oils applied to the water surface were not harmful to fish at doses used for mosquito control. Suspensions of DDT affected frogs, snakes, crayfish, spiders and various species of aquatic insects. Warm-blooded animals were not harmed by DDT at larvicidal dosage. P. M. Eide, C. C. Deonier, and R. W. Burrell. *J. Econ. Entomol.* 38, 492-3 (1945).

Insecticidal Compounds

Insecticidal compounds have the formula $\text{HOCH}_2\text{CH}_2\text{NHR}$ where R is an alkyl or alkenyl radical containing at least 6 carbon atoms. Data show that the *N*-octyl and *N*-dodecyl compounds are toxic to houseflies at 5 per cent concentration in kerosene. The compounds may be used in solution, in water emulsions, or in dusts with inert carriers such as talc. A. W. Ralston, J. P. Barrett, and M. R. McCorkel, to Armour and Co. U. S. Patent No. 2,383,564.

Methods of Analysis of DDT

Collaborative study was made of the determination of DDT in a sample of the pure compound dissolved in acetone, by estimation of total chlorine by the modified Winter method, and by the alcoholic potassium hydroxide method. By the modified Winter method 3 of the collaborators obtained recoveries of 98.7-99.8 per cent, and the other two obtained recoveries of 87.2 and 89 per cent. By the alcoholic potassium hydroxide method the recoveries by the 5 collaborators were 97.0-102.3 per cent. Both of these methods are dependent to a certain extent on the purity of the DDT.

The technical grade contains approximately 75 per cent of DDT, the remainder consisting chiefly of DDT isomers. This technical grade is currently required to contain 48-51 per cent of organically bound chlorine. It is known that at least some of the isomers of DDT react with alcoholic potassium hydroxide in the same manner as DDT. Somewhat high and

erratic values may be obtained for the technical grade. The potassium hydroxide method has the advantage over the total chlorine method in that it determines DDT and isomers and excludes 2, 2-bis(chlorophenyl)-1,1-dichloroethylene, which is the most likely decomposition product of DDT and has a lower insecticidal value. E. E. Fleck. *J. Assoc. Official Agr. Chem.* 28, 585-9.

Mamey Seed as Insecticide

In search for insecticides from plants already established in the western hemisphere, the mamey tree (*Mammea americana* L.) was investigated. The most toxic part of this plant is the kernel of the mature seed. It was found that the toxicity is not attributable to pyrethrins, but may be due to a somewhat similar type of substance. M. A. Jones and H. K. Plank. *J. Am. Chem. Soc.* 67, 2266-7 (1945).

Parasiticide

A parasiticial and fungicidal preparation contains as its active ingredient a halogen-substituted naphthoquinone. W. P. ter Horst, to Dominion Paper Co. Ltd. Canadian Patent No. 433,129.

DDT as Household Spray

Xylene was found to be a satisfactory solvent for DDT and was easily emulsified. "Triton X-100" proved to be a good inexpensive emulsifier. A nominal 5 per cent spray emulsion was applied at 4 cc. per square foot to obtain a safe and effective residual dosage of 200 milligrams of DDT per square foot. H. Stierli, S. W. Simmons, and C. M. Tarzwell. *Pub. Health. Repts., Suppl.* No. 186, 49-65.

Test DDT Mosquito Control

After application of DDT in kerosene and in aqueous emulsion (56 milligrams and 208 milligrams of DDT per square foot), the light application in buildings gave 91 per cent, the heavy application 99 per cent reduction of malarial mosquitoes in the sprayed buildings throughout the season. J. B. Gahan and A. W. Lindquist. *J. Econ. Entomol.* 38, 223-30 (1945).

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DDT Studies in Dwellings

In unoccupied buildings treatments of 200 milligrams of DDT per square foot killed a high percentage of the mosquitoes which entered the building for a 5-month period after treatment. Results showed that DDT residues are effective against mosquitoes in unscreened houses, as many dead mosquitoes were found on the floors of such buildings after they had been sprayed with DDT. In occupied houses treatment with 100 and 200 milligrams of DDT per square foot did not give as high a percentage of kills as was obtained in unoccupied houses. This was due in large measure to the fact that in occupied buildings only portions of the available resting places were treated. Safe resting places were provided by untreated furniture, exposed clothing, pictures etc.

The DDT spray was especially effective against flies, bedbugs, and native cockroaches. In treating occupied houses all possible surfaces should be carefully and thoroughly sprayed, even though such treatment prolongs the spraying time. Kills of 100 per cent were obtained in 4½ hours or less under normal conditions. The toxicity resulting from a single spraying with 200 milligrams of DDT per square foot in vacant rooms gave good kills for a period of more than 11 months. Temperature greatly influenced the rate of knockdown,—the higher the temperature, the more rapid the effect of the DDT. The use of DDT is considered a spectacular step forward in the suppression of ma-

laria. C. M. Tarzwell and H. Stierli. *Pub. Health Repts., Suppl. No. 186*, 35-48.

Moth Control in Vaults

Because of the severe shortage of *para*-dichlorobenzene for control of moths in garment storage vaults, some cleaners and laundrymen have tried DDT as a substitute. The compound is effective for killing moths but on contact with the insecticide only. It does not vaporize and act in vapor form as *para*-dichlorobenzene does. This means that DDT solution must be sprayed on all garments in order to give protection.

Another method tried was to use DDT in dry-cleaning solvent, but this may result in corrosion to equipment and is not considered advisable. Apparently to date there is no satisfactory substitute for *para*-dichlorobenzene for use in storage vaults or even an equivalent practical method of moth control. *Laundry & Dry Cleaning J. of Canada, Feb., 1946.*

Insect Damage to Nylon

Nylon, finished completely or finished by the scouring process, is highly susceptible to damage by larvae of several species of dermestid beetles, particularly *Anthrenus verbasci*. Cotton cloth is similarly damaged. A scour containing a sulfonated oil and sodium silicate imparted the greatest attractiveness of the fabric to the larvae; a sulfated alcohol which was both a scour and a finishing agent gave the second degree of attractiveness; a sulfonated oil imparted least attractiveness. Nylon is not digested by the larvae but may have a slight attractiveness. The finish of digested by the larvae but may have a slight nutritive value. The finish of the fiber is probably the critical factor in attack by these insects. R. L. Patton. *J. Econ. Entomol.* 38, 522-3.

"Thanite" for Ants

"Thanite," which is isobornyl thiocyanacetate, acts as a contact poison. Invasions of ants into houses are stopped immediately by atomizer applications of this compound. R. H. Smith. *J. Econ. Entomol.* 38, 604.

Rat Control

Prebaiting is shown to be a more efficient method of rat control than direct poisoning. Under the prebaited feeding-station method using dry cereal bait, zinc phosphide is fully as efficient as thallium sulfate and its use has the advantage of avoiding secondary poisoning to other animals. Yellow phosphorus is a less effective raticide, while forms of red squill, strychnine, and arsenic are distinctly inferior. The benefits derived from the use of oil and sugar as attractants and of coloring agents as a means of identifying poisoned baits are discussed. R. E. Doty. *Hawaiian Planters' Record* 49, No. 2, 71-239; through *Chem. Abs.*

Emulsifying Agent for DDT

DDT emulsions are readily prepared through the use of a new liquid nonionic emulsifier, nonaethylene glycol monooleate S725, made by Glyco Products Co., Brooklyn. The amount of DDT required to give the desired concentration is dissolved in a suitable amount of a solvent such as xylol. About 10 per cent of the liquid S725 is added to the DDT solvent solution, with which it is readily miscible. This DDT solvent concentrate is then added to the desired amount of water, whereupon it forms stable emulsions with little or no agitation.

DDT Toxicity

Sprays containing more than 0.1 gram of DDT per 100 cc. of kerosene were very toxic to the housefly, *M. domestica* L.; 1 gram per 100 cc. of kerosene was effective for practical use, but lower concentrations gave slow speed of knockdown. This can be remedied by adding a small amount of pyrethrum. A mixture of 0.03 gram of total pyrethrins and 0.1 gram of DDT per 100 cc. of kerosene furnishes a practical spray which will keep at least 17 months in glass bottles at 27.5°C. Addition of a suitable activator such as sesame oil or isobutyl undecylenamide will increase its toxicity. The impurities in curde DDT are nontoxic to houseflies. E. P. Parkin and A. A. Green, *Bull. Entomol. Research* 36, 149-62 (1945).

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Residual Toxicity Studies

Residues from pyrethrum and DDT sprays corresponding to 200 milligrams of pyrethrins and DDT per square foot of surface, were compared with respect to knockdown and toxicity against the malarial mosquito, *Anopheles quadrimaculatus*. Pyrethrin residues showed greater knockdown than DDT residues. Mortality, however, favored DDT, but after 12 weeks the pyrethrin residues still showed 87-90 per cent mortality. R. L. Metcalf and C. E. Wilson. *J. Econ. Entomol.* 38, 499 (1945).

Mildew Proofing

Examination at the Shirley Institute of a large number of substances on the growth of mold fungi led to the discovery of some which prevented growth of molds in culture media at very low concentrations. The most promising were salicylanilide (Shirlan), *ortho*-chloro mercuriphenol, *para*-acetoxy mercuriacetanilide, thallium carbonate, *para*-nitrophenol and trichlorophenol. Only salicylanilide possessed a sufficient number of the desired properties of an antiseptic for general use in the textile industry. Mercaptobenzothiazole is only slightly less effective and can be applied simultaneously; *para*-nitrophenol is used fairly extensively.

To afford resistance in materials of high mildew capacity, two or more antiseptics may be combined, generally contrasted in chemical constitution and in partition coefficient between oil and water. One may prevent growth of a particular species which resists or decomposes the other. Pairs which have been employed with success are salicylanilide and *para*-nitrophenol, and salicylanilide and mercaptobenzothiazole. This procedure has become important for many articles intended for use in the Tropics. R. G. Fargher. *J. Soc. Dyers & Colorists* 61, 118-22 (1945).

DDT in Mosquito Control

DDT in various formulations is toxic to larvae of *Culex pipiens*, *Aedes sollicitans*, and some other surface feeders. Against the pupae of these mosquitoes it is much less toxic. Before DDT can be recommended for

practical mosquito control, more extensive field investigations will be necessary. J. M. Ginsburg. *J. Econ. Entomol.* 38, 494-5 (1945).

Larvicidal Aerosols

Laboratory and field experiments have demonstrated possibilities of applying DDT in liquefied-gas aerosols to control anopheline-mosquito larvae. Complete mortality was obtained under laboratory conditions with aerosols at distances of 60 feet from the point of release. When fatty acids were incorporated in the aerosol, the deposits on the water surface were effective after several artificial rains. In the field, the aerosols were lethal at a dosage of 0.1 pound of DDT per acre. Application by airplane appears promising. H. A. Jones, C. C. Deonier, R. W. Burrell, and E. F. Knippling. *J. Econ. Entomol.* 38, 432-3 (1945).

Yam Bean as Insecticide

The ether extract of yam beans was divided into a nontoxic oil and a resin toxic to insects. The resin was fractionated by chromatographic methods, yielding one noncrystalline and 6 crystalline compounds, and 3 heterogeneous fractions. One of the crystalline compounds was identified as rotenone, a second called erosine was closely related to elliptone. Three of the compounds and one of the heterogeneous fractions were toxic to the silkworm, but two of these were of low toxicity to the Mexican bean beetle. The toxic heterogeneous fraction probably contained at least one toxic compound not isolated. L. B. Norton and R. Hansberry. *J. Am-Chem. Soc.* 67, 1609-14 (1945).

DDT Determination

DDT may be determined in small amounts down to 10 micrograms by a method which involves intensive nitration and the production of colors by the nitrated products in benzene plus methanolic sodium methylate. This color reaction can also be used as a test for degradation products of DDT and some compounds related to it. M. S. Schechter, S. B. Soloway, R. A. Hayes, and H. L. Haller. *Ind. Eng. Chem., Anal. Ed.* 17, 704-9 (1945).

DDT on Wall Surfaces

Laboratory tests were made with the disease-carrying mosquitoes, *Anopheles quadrimaculatus* and *Aedes aegypti* in contact with surfaces sprayed with DDT preparations applied at the rate of 10-400 milligrams of DDT per square foot. Aqueous DDT emulsions and suspensions were equally effective on wood surfaces, and both types of preparations were slightly superior to DDT-kerosene spray. A 2-4 hour contact was required for a lethal dose. Residues were effective for 32 weeks when mosquitoes were exposed 24 hours to them. Sunlight had a low deleterious effect on DDT residues. On unpainted surfaces and on surfaces with 2 coats of cold-water casein paint, DDT residues were highly toxic; on surfaces covered with oil paint the residues were less effective. DDT activated mosquitoes that rested on treated surfaces, causing them to fly but the contact gave them a lethal dose. J. B. Gahan, B. V. Travis, and A. W. Lindquist. *J. Econ. Entomol.* 38, 236-40 (1945).

Spray Analysis

Kerosene-based sprays may be analyzed for DDT and pyrethrins. The latter are separated by adsorption on alumina cream. DDT is dehydrochlorinated in alcoholic potassium hydroxide and the chloride determined by silver nitrate titration. Details of the procedure are described. R. F. Powning. *J. Council Sci. Ind. Research* 18, 121-3 (1945).

Kerosene for DDT

The solubilities of technical and pure DDT in a number of kerosenes over the range of 30° to -30° C. were determined. Kerosenes obtained from naphthenic-base crude oils dissolve more DDT than do those obtained from paraffin-base crude oils. The aniline point of the kerosene may be used as a general guide to its solvent power for DDT. The addition of petroleum fractions rich in alkylated naphthalenes retards the crystallization of DDT from kerosene solution held at -30° C. In general the solubility of DDT increases as the aniline point decreases. E. E. Fleck and H. L. Haller. *Ind. Eng. Chem., Anal. Ed.* 18, 177-8 (1946).

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CHICAGO, ILL.

New Surface Sprayers

Two new sprayers for applying surface treatments in the household are announced by Paul Engstrum, industrial engineer, 1001 14th Street, NW, Washington, D. C. Both sprayers are used for applying residual or surface sprays to walls, baseboards, cupboards, screens, beds, closets, and elsewhere about the house. When used with an appropriate insecticide, either sprayer will deposit an invisible residue which kills by contact such insects as flies, mosquitoes, ants, moths, silver fish, bedbugs, fleas, cockroaches and other household pests. Because the trigger of either device is operated with one hand, the other hand is free to arrange or to prepare surfaces that are to be treated.

One of the sprayers is shaped like a pitcher, is made of polished aluminum, and holds one pint of insecticide concentrate. It is provided with a small air pressure pump, located in the top of the device, which with a moderate amount of pumping develops enough pressure to propel about one-fourth of a pint of the insecticide. The liquid is dispersed through a small nozzle controlled by a thumb pressure lever. One filling of the container is sufficient for applying a residual coating to 125 square feet of surface. A larger model is being developed for treating larger surfaces such as are found in barns, dairies, and in other places where foods are handled.

The other sprayer is slightly larger than a big flashlight, is cylindrical in shape, and is made of a nicked metal. It possesses a pump in one end, a refilling cap in the other end, and a



nozzle on its side. This sprayer is used advantageously in small spaces and from any position of the device. Both sprayers are well constructed and are designed to last for many years.

Mr. Engstrum and his associates acknowledge the cooperation of Dr. W. E. Dove and other prominent entomologists in the development of these sprayers.



Sees Rotenone Consumption Up

Postwar consumption of rotenone in the U. S. will run to about ten million pounds of five per cent roots annually if supplies are available according to a recent estimate of the Office of Foreign Agricultural Relations of the U.S.D.A. This figure does not take into account roots necessary for restocking of inventories. The OFA states that far from having its market displaced by other insecticides, with lower prices for rotenone bearing materials and good prices for agricultural

products, it is possible that U. S. consumption of rotenone roots will be double that of 1940-41, or perhaps 13,000,000 pounds.

N. Y. Code Excludes DDT

According to Dr. W. D. Tiedman, chief of the Bureau of Milk Sanitation, New York State Dept. of Health, DDT is not a poison as defined in Regulation 9 of Chapter IX of the Sanitary Code and no attempt will be made at this time to place the product under regulations as to labeling or

coloring. This was revealed recently by the National Association of Insecticide and Disinfectant Manufacturers, Inc., who had received this information in a letter from Mr. Tiedman. Previously, consideration was reported being given to placing DDT products under the provisions of the regulation.

Rose Exterminator Co. Moves

Rose Exterminator Co., Chicago, announced late in April that they have moved to new quarters at 1809 W. North Ave., Chicago 22.

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1. Dries in 1 hour
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TRADE NEWS...

Camson Succeeds Joyce at Orbis

Edwin J. Camson, who has been with the company in production, research and insecticide and allied products development capacities since 1932, has been appointed sales manager of the insecticide division of Orbis Products Corp., New York, it was announced recently. He succeeds Robert F. Joyce, who died suddenly at his home April 3. Mr. Camson studied chemical engineering at Columbia University and was graduated in 1932. He has been with the company since, working in the factory at Newark, N. J.

Vogel-Ritt Open Detroit Branch

Vogel-Ritt, Inc., Philadelphia exterminating and fumigating house, recently announced the opening of a branch office in Detroit, with temporary quarters at 6432 Cass Ave. Negotiations are under way and are expected to be completed within a short time for the purchase of a suitable building, the company stated. Joseph A. Watkins of 16754 Fenmore Ave., Detroit, is in charge of the Vogel-Ritt Detroit office.

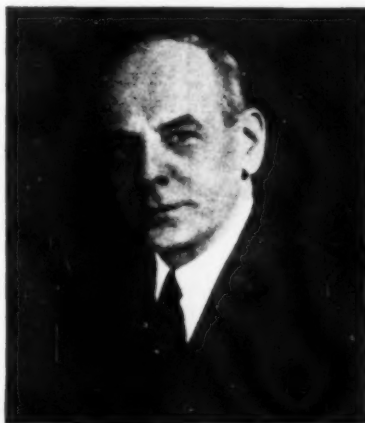
Continental Can DDT Booklet

Continental Can Co., New York, recently announced a 24-page booklet on DDT prepared by H. E. Peterson and W. G. Palmer of the company's research department. Considered in the booklet are chemistry and formulation of DDT, its effects on insects and plants, DDT toxicity, packaging of DDT and labeling of DDT formulations and three tables showing its effect on insects, plants and the various types of plate used in the manufacture of containers.

NAIDM to Honor Dr. McDonnell

Dr. C. C. McDonnell, formerly chief of the Insecticide Division of the U. S. Department of Agriculture, Washington, D. C., has been proposed as an honorary member of the National Association of Insecticide and Disinfectant Manufacturers, Inc., the asso-

ciation announced April 15. Dr. McDonnell's election will be taken up at the mid-year meeting of the N. A. I. D. M. at French Lick Springs Hotel,



DR. C. C. McDONNELL

French Lick, Ind., June 17-19. Dr. McDonnell retired in 1945 as chief enforcement officer of the Insecticide Act of 1910, after serving in that post for many years.

Joins Velsicol's Sales Staff

Dixon C. Van Winkle has joined the eastern sales staff of Velsicol Corp., Chicago, the company announced recently. A native of New Jersey and a graduate of Rutgers University, Mr. Van Winkle was previously affiliated with Kellogg Corp. He will make his headquarters in the firm's eastern offices, 11 Park Place, New York.

Ohio P.C.O.'s Organize, Elect

At a recent meeting of Ohio pest control operators, a new association was formed to be known as Ohio Pest Control Operators' Association. Officers were elected at the meeting which was held at the Deshler-Wallick Hotel, Columbus. William O. Buettner, secretary of the National Pest Control Association, was present and served as temporary chairman of the meeting. Dr. T. H. Parks, Extension Entomologist of Ohio State University,

addressed the group after luncheon. The following officers and directors were elected: President, H. K. Steckel, Tornado Mfg. Co., Columbus; vice-president, W. R. Phippard, Wilmar Co., Cincinnati; secretary-treasurer, Miss Barbara A. Laing, Laing Exterminating Co., Cleveland; directors, H. Studier, Guarantee Exterminating Co., Cleveland; H. Militzer, H. & M. Laboratories, Toledo; W. M. Faulkner, T. & F. Exterminating Co., Zanesville; Richard K. Barnett, Barnett Pest Control, Dayton, and Robert Yeager, Rose Exterminating Co., Cincinnati.

Three New N.A.I.D.M. Members

New members recently elected to membership in the National Association of Insecticide and Disinfectant Manufacturers, Inc., New York, include Westinghouse Electric Corp., insecticide division, Springfield, Mass., and J. T. Baker Chemical Co., Phillipsburg, N. J., active members; and R. E. Chapin Mfg. Works, Inc., Batavia, N. Y., associate member.

Commercial Enterprises Formed

Commercial Enterprises, Inc., a distributing firm handling several lines of metal cleaners and fire chemicals, is reported recently to have been opened at 1601 N. Sixth St., Fort Smith, Ark., by L. A. Thomasson and F. W. McMillan. Both men are veterans, Mr. Thomasson having served overseas as a major with the U. S. Army in China, while Mr. McMillan was a Navy inspector in Cleveland and Washington, D. C., during the war.

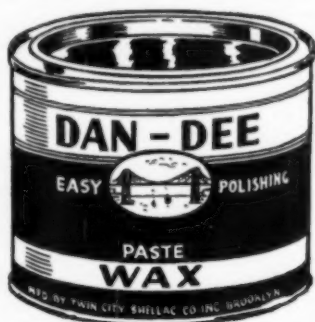
Plan Pest Control Meeting

National Pest Control Association will hold its 14th annual meeting in New Orleans, La., on October 28, 29, 30, 1946, with headquarters at the Roosevelt Hotel, according to William O. Buettner, secretary. An attendance of 600 is anticipated and hotel arrangements are now being arranged. In view of limited hotel accommodations in New Orleans, arrangement to house the membership is being made at five other hotels in addition to the Roosevelt, including the Jung, Monteleone, St. Charles, New Orleans, and De Soto.

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Plan NAIDM Program For June 17-19 Meeting

TWO reports on DDT toxicity to humans, one by Dr. Victor Froelicher of the Geigy Co. and the other by Dr. D. Neale of the U. S. Public Health Service, both representing the latest data on the subject, will be presented at the 32nd annual mid-year meeting of the National Association of Insecticide & Disinfectant Manufacturers to be held June 17-19 at the French Lick Springs Hotel, French Lick, Indiana. Other high lights of the meeting will include papers on live stock sprays by R. L. Cuff of the USDA and H. S. Telford of Dr. Hess & Clark, Inc. Aerosol marketing, its potentialities, floor finishes, carnauba wax situation, cold sterilization methods, disinfectant testing and evaluation, quaternary ammonium compounds in disinfection, and other allied topics are on the program. An open forum on insecticide questions and answers is also scheduled, answers to be given by experts to questions previously submitted.

The three-day meeting at French Lick will open on Sunday, June 16, with a meeting of the Board of Governors and committee chairman, followed by general open sessions all day Monday, June 17, and morning sessions on June 18 and 19, according to H. W. Hamilton of the Koppers Company, NAIDM secretary. The program as tentatively announced is being arranged by a committee headed by Clarence Weirich of the C. B. Dolge Co., Westport, Conn. A sports program has been arranged with Charles W. Furst of the Furst-McNess Co., Freeport, Ill. in charge of a golf tournament on Tuesday afternoon, June 18. Following the close of the meeting on Monday afternoon, June 17, a soft ball game between insecticide and disinfectant teams, and a horse-shoe pitching contest, both in charge of H. W. Jordan of the Federal Chemical Co., Indianapolis, will be held.

On Tuesday evening, June 18, an informal dinner will be held at which prizes for the sports program



"Pluto Spring" at French Lick Springs, half-way mark for rapid early morning walkers at this Indiana resort where NAIDM meets June 17-19.

will be presented by Charles Furst. J. B. Magnus of Magnus, Mabee & Reynard, Inc., New York, is chairman of a committee of associate members which is procuring and donating the prizes. Following the dinner, a floor show will be staged which is being arranged by Frank Nowland of the George H. Nowland Co., Cincinnati. Following a business session on Wednesday morning, June 19, the meeting will close at noon. Duties of presiding officer at the various sessions will be shared by N. J. Gothard of Sinclair Refining Co., NAIDM president, and Gordon Baird of Baird & McGuire, Inc., and A. W. Morrison of Socony-Vacuum Oil Co., vice-presidents.

Chemical Salesmen Hear Dr. Keyes

Dr. Donald B. Keyes, director of research of Heyden Chemical Co., New York, was guest speaker at the April 25th luncheon meeting of the Salesmen's Association of the American Chemical Industry, which was held in the Hendrick Hudson room of the Roosevelt Hotel. Dr. Keyes, who is co-author of the book "Chemical Engineering Manual," and who spent

three summers in Europe previous to the war, spoke on "Industrial Intelligence in Germany."

The next luncheon of the Association will be held Thursday, May 23. Dr. Wallace P. Cohoes, president of the Chemist's Club of New York, will be guest speaker. His topic has not been announced as yet.

United Expands Activities

Three new developments were announced recently by United Sanitary Chemicals Co., Baltimore manufacturers and distributors of sanitary chemicals and janitors' supplies. United has acquired for further expansion the property at 23-25 S. Howard St., which is adjacent to its present location at 27 and 29 S. Howard St. The company has organized a subsidiary company for the purpose of distributing its products on a wholesale basis to hardware, variety and drug stores under the name of Mitchell Distributing Co. The subsidiary organization occupies part of the 29 S. Howard St. building.

In addition, United has purchased the manufacturing rights and patents of Woods Waxing Machine Co., a Pennsylvania organization, and has formed and incorporated a unit in Maryland as Woods Waxing Machine Corp. Murray L. Schuster, head of United Sanitary Chemicals Co. is president. Production of electric floor waxing equipment by the newly formed company, which will also make its headquarters at 29 S. Howard St., will begin within the next few months, the company stated.

Pennsalt Issues Bleach Leaflet

Pennsylvania Salt Manufacturing Co., Philadelphia, recently issued a six-page, two-color leaflet on "Perchloron," a laundry trade bleach. Copies are available from the company's laundry and dry cleaning division, 1000 Widener Building, Philadelphia 7, Pa.

Modern Floors Moves

Modern Floors Mfg. Co., Washington 9, D. C., has just announced that it is located in new quarters at 2431 18th St., N. W., directly across the street from its former location.



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REX FLOOR MACHINE

(5 models)—High powered for greater efficiency... perfectly balanced for easy operation. Attachments permit waxing, polishing, wire-brushing, sanding, steel-wooling, and grinding. Addition of solution tank converts into rug and floor scrubbing machine (3 sizes). See also the new Rex Vacuum Cleaners!



Rexglo-X IMPROVED

A non-slippery, self-polishing wax. Sheds water like a duck's back! Will not turn white (re-emulsify), is always safe underfoot. Dries almost instantly to a high luster which may be converted to a brilliant gloss by polishing, if desired. Never soft, sticky or brittle. Scuff marks easily removed. Sold also in concentrate.



NU-TRO-FIL, the 2-in-1 wax cleaner. Used in the mop water. Cleans, re-waxes in one operation. Removes grease, scuff marks like magic and leaves a "dress coat" of wax behind that lengthens floor treatment life by replacing wax lost in service. Saves manpower, materials. Neutralizes alkali and acids.

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Sodium Metasilicate, penta hydrate
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TRI-MET

Mild, general household cleaner for painted surfaces in one application. Needs no wiping or rinsing. Fine, white, free-flowing TRI-MET is an excellent substitute for Tri-Sodium Phosphate in household compounds.

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Built to Government specifications for machine dishwashing.

CONCENTRATED SOAP POWDER

Type 1 For laundry

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Powdered — in bulk or shaker containers

METAPLUS

For general industrial cleaning

DRIVEWAY CLEANER

For driveways, runways, garage and factory floors, grease pits, etc.

We are basic manufacturers, and our products are currently available in carlots.

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Front and Yarnall Streets, Chester, Pa.

New Edco 5 Lb. Aerosol Bomb

Edco Corp., Newark, Del., recently introduced a new, refillable, five-pound, aerosol bomb that will be marketed under the name, "Mul-T-Vapor." With an estimated capacity of 750,000 to 1,250,000 cubic feet, the new bomb can be had with or without DDT. The dispenser is equipped with handle grip. Available for immediate delivery.

Katz' Form Own Company

Alexander E. Katz and Leonard Katz, formerly associated with Florasynth Laboratories, Inc., New York, have retired as chairman of the board

and a vice-president, respectively, it was announced recently. They will engage in their own business under the trade name, "Dr. Alexander Katz & Co., Essential Aromatics," with a regular staff, maintaining a manufacturing plant and principal offices at 4641-3 Hollywood Boulevard, Los Angeles, and at 304 E. 23rd Street, New York. Branch offices will be maintained at 948 Howard St., San Francisco, and in Dallas, Seattle, New Orleans and other principal cities throughout the U. S.

Florasynth will continue to operate its business as heretofore with its regular staff, maintaining principal offices and laboratory as before at 1513 Olmstead Ave., Bronx, N. Y.



New Hydraulic Sprayer

A new, hand operated, all-metal, hydraulic sprayer, has been developed by Cornelius Co., Minneapolis, for aerosol type spraying of insecticides, disinfectants, etc. Made entirely of brass and stainless steel, the sprayer has neither packing nor gaskets, yet it can be operated in any position without danger of leakage, according to the announcement, due to specially designed airlock around piston. An important feature of the new sprayer which measures less than six inches from nozzle to handle, is the use of a hydraulic principle by which a 300 pound nozzle pressure is built

Showing operation of new, all-metal, hydraulic sprayer, built by Cornelius Co., Minneapolis, for aerosol type spray for insecticides, disinfectants, etc.

up with a single $2\frac{1}{8}$ inch stroke of the piston. This pressure, discharged through a special nozzle containing an orifice .006 of an inch in diameter, is said to reduce fluids to an aerosol fog.

The new sprayer is supplied complete with an eight ounce screw-type glass container. An extra container is included in each package for use with different types of solutions.

M & C Changes Name, Expands

Multi-Clean Products, Inc., is the new name of M & C Maintenance and Manufacturing Co., St. Paul,



H. B. Quick



W. J. Philipbar

Minn., announced late last month. In addition to the change in name of the company, the addition of new personnel and plans to expand production of the company's line of floor and carpet machines, industrial vacuum equipment and maintenance chemicals and supplies in its new plant at 2277 Ford Parkway were announced. H. B. Quick, formerly of the wax and polish division of Minnesota Mining and Manufacturing Co., has joined the firm as general sales manager, and W. J. Philipbar, who served as superintendent of production for Glidden Co., Farwell, Ozmin, Kirk & Co., and Harris Paint and Varnish Co., has been appointed production superintendent of the Varnish and Chemical Specialties division.

2, 4-D Countersuit Filed

American Chemical Paint Co., Ambler, Pa., filed suit in the Federal District Court, Wilmington, Del., recently, against Sherwin-Williams Co., New York, asking treble damages for alleged infringement of U. S. Patent No. 2,390,841 covering use as a weed killer of 2-4-dichlorophenoxyacetic acids, its esters and salts. The suit was filed as a countersuit to Sherwin-Williams' suit of March 6, at which time Sherwin-Williams Co. filed for a declaratory judgment regarding the validity of the patent.

Safety Fumigant Co. Moves

Safety Fumigant Co., Boston, announced recently that they have moved their main office to 158 State St. This is said to be a larger and better suited location than that formerly occupied by the company at 31 India St.



For the ideal base
with DDT Solutions

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**PENN-DRAKE
INSECTI-SOL**

Because Penn-Drake INSECTI-SOL stays odorless, and evaporates completely, it is the ideal base for use with DDT solutions or with DDT crystals in low concentrations, as well as with insecticides of other types. INSECTI-SOL is 100% volatile, floats longer and gives maximum penetration.

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109 AVENUE L

NEWARK, N. J.

Janes Joins Socony-Vacuum

Dr. Melvin J. Janes has recently joined the staff of Socony-Vacuum Laboratories as an entomologist.



DR. MELVIN J. JANES

Dr. Janes received his B.S. and M.S. degrees from Utah State Agricultural College and his Ph.D. from Iowa State College. Beginning in 1935, he was for several years entomologist with the Texas Agricultural Experiment Station, being engaged in cotton, fig, and truck crop insect investigations. He was later associated with the Virginia Agricultural Experiment Station in fruit insect research, and during the past year was employed in insect control supervision on West Coast Army posts by the Army Ninth Service Command.

Wilson Opens N. Y. Office

Wilson Chemical Co., Brooklyn, recently announced the opening of a New York office at 35 Water St., New York 4. The head of Wilson Chemical Co. is James R. Wilson, formerly of Tedlee Chemical Corp. and Regal Chemical Corp., Brooklyn.

Gammexane No DDT Replacement

Tests in the United States show that the new English developed insecticide sometimes referred to as benzene hexachloride is not a replacement for DDT and at present has serious shortcomings, it was stated recently by D. W. H. Tisdale, director of the Pest Control Research Laboratory of E. I.

du Pont de Nemours & Co., Inc., Wilmington.

"While it shows real promise as an additional lethal weapon against many insect pests," Dr. Tisdale explained, "hexa-chlorocyclohexane, to use its correct chemical name, will require more research work before it can contribute importantly to the welfare of man. It has a disagreeable, pungent odor, and does not possess the long-lasting toxicity in the field that makes DDT so outstanding." Experimental reports point to limited use of the insecticide for controlling household, storage and livestock insects because of the odor. It is more toxic to flies and cockroaches than DDT.

Eastern Pa. P.C.O.'s Meet

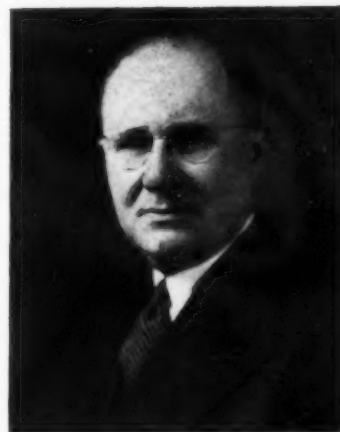
The first 1946 quarterly meeting of the Eastern Pennsylvania Pest Control Association was held at the Hotel Lorraine, Philadelphia recently. Business matters taken up included discussions of cost accounting and job pricing. The association president, W. C. Sharp, reported that Penn State College has been contacted with the idea of establishing a series of short courses in entomology there. The next meeting of the association is set for June 11, in Philadelphia.

New type dispenser package for "Roteicide" roach powder ejects the powder when the container is squeezed. The sharp tip of the package permits use in corners and along wall boards. The product is made by Rotenone Products Co., East Orange, N. J. Photo courtesy Flexible Packaging Institute.



NSSA to Hear E. B. Moran

E. B. Moran, manager of the Central Division of the National Association of Credit Men, will speak on



E. B. MORAN

the subject of "Synchronizing Sales and Credits for Maximum Distribution" at the National Sanitary Supply Association convention and merchandise display, May 28. The convention program follows:

Monday, May 27th.

Merchandise Display, 9 a.m. to 1 p.m.
Business Sessions, Roosevelt Room—2 p.m. to 5 p.m.

Report of officers
Adoption of new constitution
Appointment Nominating Committee

Address: "Synchronizing Sales & Credits for Maximum Distribution," By E. B. Moran

Address: Tom Collins, Assistant to publisher and daily columnist, Kansas City Journal

Tuesday, May 28th.

Merchandise Display, 8 a.m. to 1:30 p.m.
Business Sessions, Roosevelt Room—2 p.m. to 5 p.m.

Report of Nominating Committee
Election of Officers

Address: V. Froelicher, Geigy Company, Inc., "Uptodate Facts on D.D.T."

Address: J. Robert York, Western Service Manager, Bureau of Advertising, American Newspaper Associates, "Industry and Public Opinion"

Tuesday Night, 7:30 p.m.

Terrace Garden
Banquet
Speaker: Dr. Preston Bradley

Wednesday, May 29th.

Merchandise Display, 8 a.m. to 10:30 a.m.

Business Session, 10:30 a.m. to 12 Noon. Roosevelt Room

Luncheon Officers and Directors

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● **RELIABILITY**

The Chemical Supply Company was established in 1898. Its financial responsibility is of the best. Its management is active and aggressive. Its line is complete in every way to permit you to deal with one large responsible concern that can give you every needed advantage in *quality, quantity and service at lowest cost.*

● **SATISFACTION**

Our background of manufacturing experience and continual experimenting keeps our products in a class by themselves. Consequently, they command a better price and above all, they assure your customers satisfaction and good will!

We can give you many more reasons why we believe you can purchase more profitably from us and we earnestly ask that you consider us as the most logical and economical source of supply.

Write for samples and quotations.

THE CHEMICAL SUPPLY COMPANY

225 PLYMOUTH BLDG.

CLEVELAND 15, OHIO

Disinfectants — Insecticides — Metal Polish — Dips — Oils — Sanitary Specialties

DIRECT IMPORTERS HEADQUARTERS

for

Oil Ocotea Cymbarum

(Sassafras)

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Empire State Building
New York 1, N. Y.

CIN-MADE CANS



All fibre or fibre body with metal ends.
Available in a wide range of sizes and colors.
Plain or labelled.
Your inquiries welcomed, large or small.

THE CIN-MADE CORPORATION

3rd & Eggleston Ave., Cincinnati 2, Ohio
Almost a Half Century in Cincinnati

Offer New Quaternary Disinfectant

A new odorless disinfectant, "Timsol," developed for sterilizing surgical instruments cold for the armed forces, is now available for civilian sanitation use, according to announcement by Theo. Ross & Associates, 835 W. Olympic Blvd., Los Angeles 15, Calif. Active ingredients are quaternary ammonium compounds. The product is being offered in the hotel, restaurant, hospital, school and other institutional fields.

Portable Demonstration Kit

Enoz Chemical Co., 2430 Indiana Ave., Chicago 16, Ill., has equipped its salesmen with a unique demonstration kit for showing prospective customers how its insecticides function. Resembling a small portable radio in size, the device has a glass window in one side of the box through which the observer can follow action of the insecticide on test insects.

Hollingshead Promotion Piece

"Chemicals Art Tools" is the title of a new promotional piece issued by the R. M. Hollingshead Corp., Camden, N. J., which features the advantages for institutional use of their line of furniture polishes, floor waxes, soaps, insecticides, disinfectants and other sanitary products.

Banner Issues Catalog

Banner Chemical Products Co., Newark 5, N. J., has released a 20-page booklet, "Banner Sanitary Chemicals," describing its line of soaps, polishes, waxes, insecticides, disinfectants, sweeping compounds, dishwashing compounds, deodorants, soap dispensers and other items.

Awards to Johnson, Wrisley

Printed material used by S. C. Johnson & Son, Inc., Eli Lilly & Co. and the Allen B. Wrisley Co. won awards in the recent 19th annual exhibition of the Chicago Society of Typographic Arts. The Johnson entry was a brochure, "Special Waxes for Industry." That for the Eli Lilly Co. was a folder, entitled "A Reliable Method," while the Wrisley company was honored by two selections, a maga-

zine advertisement promoting their "Spruce" line of toiletries, and the familiar "Olivilo" soap wrapper, designed by Robert Sidney Dickens.



To Distribute Midget Aerosols

A new company, Matco Products, Inc., Jersey City, N. J., has been formed to handle the exclusive distribution of "Matco Midget Aerosol" dispensers, it was announced recently. These aerosol dispensers are described as "room-size" insecticides, containing five per cent DDT, plus one per cent pyrethrum. They are packed in a counter display box of one dozen cartons, each carton containing three dispensers. List price per carton of three is 57 cents, minimum retail price, three for 50 cents. An intensive advertising campaign scheduled for June, July and August to appear in Sunday newspaper magazine sections, full pages in color, plus black and white advertisements has been announced. Distribution will be through drug, department, grocery, hardware and syndicate stores.

Clifford F. Raye, formerly director and vice-president of Skol Co., Inc., Gallowhur Chemical Co. and Puratized, Inc., has been elected president of the new company.

Empire Chemical Co. Moves

Empire Chemical Co., 19 Rector St., New York, has moved to new and larger quarters at 21 West St., the company announced recently. The company specializes in the sale of such heavy chemicals as liquid chlorine and sodium bicarbonate.

Market New DDT Powder

Safeway Chemical Co., 5699 Walworth Ave., Cleveland 2, Ohio, is marketing a new patented flexi-cap applicator for DDT powder. By a touch of the finger on the rubber dome comprising the top of the can, the powder is distributed in a light coating. Retail price, 25 cents.

Natl. Wax Buy Building

National Wax Co., Chicago, has announced purchase of the four-story building at 1300 W. Division St., Chicago, which it has occupied for several years under lease. Extensive improvements will be started at once, J. M. Packel, president, stated.

Pittsburg Chemical Incorporates

Pittsburg Chemical Co., a partnership of 3100 E. 26th St., Los Angeles 23, has incorporated under the name of Eston Chemicals, Inc., it was announced recently. There has been no change in the management or general operations of the company, which manufactures insecticides, fumigants, refrigerants and other industrial chemicals. Head officers are A. M. Esberg, president, and G. S. Wheaton, executive vice-president.

Jemco Products in New Quarters

Jemco Products Co., janitor supply house, Baton Rouge, recently announced that they had moved into their own new building at 644 Saint Philip St. In connection with this development the company took a full page advertisement in the Baton Rouge *State Times* of Feb. 16. A large photograph of the new plant and a list of the sanitary products and janitor supplies handled by the company were featured in the advertisement.

Pyrethrum Board Chairman Dies

Commander F. J. Couldrey, chairman of the Kenya Pyrethrum Board, died on April 20 at Nakuru, Kenya Colony, British E. Africa, after an illness of three weeks. Commander Couldrey was one of four members of the Kenya Pyrethrum Board that visited the United States during July and August, last year.

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Single or double wrapper for
laundry soap.

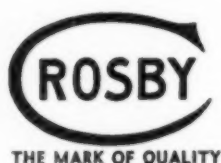
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for manufacturers and jobbers

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They will help
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PICAYUNE, MISSISSIPPI

GREATER Kills with CERTOX

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Rodent Seed, Ant Jelly, Arsenic,
Carbolic, Pyrethrum, Cresylic,
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other effective chemicals that do a
thorough job for the Pest Controller.
The quality of CERTOX products re-
mains unaffected by the national emer-
gency. Prices, too, are near normal.

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All CERTOX products are manufactured
according to exacting specifications
under personal supervision of
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SPECIAL CONTRACT PRICES
Available to Cover your Annual Needs.

YORK CHEMICAL CO.

Suppliers of Complete Exterminating Chemicals.
424 West 18th Street, New York, N.Y.

Positions Wanted

Chemist: Man with five years experience in insecticides and fumigants, B.S. and M.A. eastern university, desires connection with manufacturer where training and background would be of value. Write Box 435, care of *Soap & Sanitary Chemicals*.

Superintendent Soap Maker with long experience on all kinds of soaps and soap products. Glycerine recovery, also experienced chemist. Good references. Pacific Coast preferred. Address Box 443, care of *Soap & Sanitary Chemicals*.

Sales Manager: Experienced in marketing high quality maintenance and sanitation specialty line. Established Ohio company excellent reputation. Fine opportunity for the right man. Give full details including training and handling of salesmen, age, present position, salary objective, etc., in first letter. Replies held confidential. Address Box 444 care of *Soap & Sanitary Chemicals*.

Miscellaneous

Wanted: Back issues of *Soap & Sanitary Chemicals*, December, 1942 and December, 1944. Wanted to complete bound volumes by insecticide manufacturer. Write to Box 438, care of *Soap & Sanitary Chemicals*.

For Sale: Approximately six thousand plain, fiber tubes, metal semi-perforated top, metal ring and plug, 2 3/8" x 5-5/16". Sample and price upon request. THE F. C. STURTEVANT CO., 21-23 Mechanic St., Hartford 5, Connecticut.

If You Can Offer chemicals, oils and other materials used in the soap industry and would be interested in southern representation. Address Box 439, care of *Soap & Sanitary Chemicals*.

Large Metal Stamping Factory has entered janitor supply manufacturing field. Exclusive RUST-PROOF (cadmium-plated) dustpans and (FOLD-O-WAY) metal shelf are coming off the presses. Advice to manufacturer's representatives and janitor supply houses—write at once for distribution details to STEEL INDUSTRIES, Inc., 2324 W. Wabansia Avenue, Chicago 47, Illinois.

For Sale: Ferguson & Haas Automatic, Adjustable Soap wrapping machine; Jones Type "E" automatic toilet soap press with conveyors; Houchin 1200 lb. Power driven steel soap slabber; Houchin Power driven two-way cutting table; 5 Shriver, Sperry 12", 18", 24", 30" Iron Filter Presses; etc. Send for latest bulletin. Brill Equipment Company, 225 West 34th St., New York 1, N. Y.

Distributors Wanted: A nationally advertised powdered factory hand soap. Either as manufacturing agents or warehouse jobbers. Liberal commission and sales assistance. Territory open in middle west states, also Pennsylvania and Baltimore. Address Box 440 care of *Soap & Sanitary Chemicals*.

Broker contacting wholesale grocer chain and department stores would like to represent soap manufacturer in the Metropolitan area. 25 years' soap experience. Address Box 441, care of *Soap & Sanitary Chemicals*.

For Sale: Houchin "Empire State" Foot Press. Two Way Soap Cutting Table. Slabber. Soap Frames. Three Roll Water Cooled Mill 16" x 40". Stone Mills; Dryers; Mixers; Grinders; Filter Presses; Kettles & Tanks; Pumps; Ball Bearing Conveyor, etc. Send for our latest Bulletin. We buy your surplus equipment for cash. Stein Equipment Co., 426 Broome Street, New York 13, N. Y.

Floor Brushes: We manufacture a very complete line. Catalogue sent upon request. Flour City Brush Company, Minneapolis, Minn., or Pacific Coast Brush Company, Los Angeles, Cal.

Will Purchase Immediately — Pneumatic Packaging Machine. used for chips, powder, cleanser: also dry mixers, chip dryers, crutchers, and automatic soap press. Address Box No. 442, care *Soap & Sanitary Chemicals*.

Free Advt. for Veterans

As a service to veterans seeking jobs in the soap, chemical, detergent and sanitary industry, *Soap & Sanitary Chemicals* will accept, without charge, classified advertising from World War II veterans seeking positions. Advertisements should reach this magazine before the 21st of the month preceding month of publication.

Ingham Heads Boston Bims

C. Ernest Ingham of Ingham & Co., Boston, was chosen chairman of the BIMS of Boston at a recent meeting to succeed Pete Niles of Fritzsche Brothers, Inc. Joseph Manning of the Allen B. Wrisley Co., Boston office, was elected to the Executive Committee. Ed E. Aldrich of United Drug was re-elected treasurer. Pete Niles, retiring chairman, was chosen an honorary member. Other members of the Executive Committee re-elected include C. M. Roper of Owens-Illinois Glass Co.; Herbert Stephens of American Lithographic Co.; Stephen W. Higgins of Dennison Mfg. Co.; and Frank Longlois of United Drug Co. Announcement was made that golf outings will be held in June, July and September, details to be given later.

SOAP HEARING

(From Page 42)

to enter into the industry. A 60,000 pound quota per annum plus this bonus use of 72,500 pounds per quarter after quota use, plus the various ex-quota use possibilities, would afford the newcomer an annual total volume of business of approximately \$100,000 to \$200,000 based on present prices of soap according to their anhydrous content and types of soap manufactured. The amount produced and the total volume of sales would be the newcomers' gamble in the business. My guess is that few of these newcomers would, in the first year, reach these production levels and it is highly improbable that all of them would fully consume the quota and bonus provided for them.

Is it reasonable to suppose that more than 50 firms would enter this industry and survive, and if they did, could they possibly consume, every one of them, their entire quota and bonus, which if they did, would amount to approximately 15 million pounds of fats and oils? At the same time, is it not also reasonable to suppose that some firms in the industry would cease operating, and the amount of fats and oils consumed by them should therefore be deducted from the newcomers' total?

The 25 million pounds of bonus fats and oils to be used by the established firms in the industry, plus this estimated 15 million pounds that might be used by the newcomers would amount to 40 million pounds or 2 per cent of the total consumption of fats and oils by the industry.

Do you not think that this simple and easy change written into the order would go a long way in meeting the present needs and requirements of the industry as a whole?

Yours very truly,
KRANICH SOAP CO., INC.
Herbert Kranich

HK/cr

ATTENTION JOBBERS

Let us compound your formulas for dry alkali mixtures at surprisingly low cost — from a barrel to a carload. Complete stocks of alkalies maintained at our plant. Pulverizing facilities also available.



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Tel.: New Haven 6-9924



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EXPORT

ANETHOL N. F.

PURE, ODOR AND FLAVOR OF OIL OF ANISE

"GUM SYNTHOBENZOIN"

(SYNTHETIC GUM BENZOIN)

FIXATIVE PROPERTIES, CONSTITUENTS, ODOR, TASTE AND PURITY CLOSELY CORRESPOND TO THOSE OF THE NATURAL GUM BENZOIN OF THE SIAM TYPE.

"PUROMINT"

SELECTED GRADE NATURAL PEPPERMINT EXTRACT (OIL)

"SYNTHOMENTHOL"

SYNTHETIC MENTHOL CRYSTALS HAVING COOLING EFFECT AND ODOR SIMILAR TO NATURAL MENTHOL

ESSENTIAL OILS — FLAVORING OILS
SPECIAL COMPOUNDS
VITAMINS • HORMONES

FINE CHEMICALS • PHARMACEUTICALS

BENDIX CHEMICAL CORP.

420 Lexington Ave. MUrray Hill 3-5821 New York 17, N. Y.
CABLE ADDRESS: BENDIXCHEM

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*For
Rapid
"Repeat"
Business*

INDUSTRIAL

Liquid

BOWL CLEANER

The modern concentrated chemical cleaner which quickly removes spots, stains and discolorations from lavatories, urinals, and toilet bowls. It also aids in removing unpleasant odors.

BULK—PACKAGE—PRIVATE LABEL WORK

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341 Scholes St., Brooklyn 6, N. Y.

TRI SODIUM PHOSPHATE

JOHN A. CHEW

INCORPORATED

60 E. 42nd ST.

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NEW YORK CITY

INDEX TO ADVERTISERS

*For further details see announcement in 1945 SOAP BLUE BOOK

Agricultural Chemicals	68, 152	*Geigy Co.	107	Pensacola Municipal Advertising Board	86
Alsop Engineering Co.	74	*General Chemical Co.	19	*Per-Mo Products Co.	159
*American British Chemical Supplies	87	*General Drug Co.	2nd Cover	Philadelphia Quartz Co.	29
American Can Co.	66	*R. Gesell, Inc.	Apr.	*Pittsburgh Coal Carbonization Co.	Apr.
American Standard Mfg. Co.	Apr.	*Givaudan-Delawanna, Inc.	20, 21	*Pittsburgh Plate Glass Co.	
Anchor-Hocking Glass Corp.	15, 69	R. W. Greeff & Co.	158	Columbia Chemical Division.	115
Applied Research Labs.	171	A. Gross & Co.	63	*John Powell & Co.	91
*Aromatic Products, Inc.	4th Cover	Haag Laboratories	Apr.	*R. J. Prentiss & Co.	123
Armour & Co.	88	Hardesty, W. C., Co.	Apr.	*Proctor & Schwartz, Inc.	Apr.
*Associated Chemists, Inc.	120	Hercules Powder Co.	94, 95	Puro Co.	105
Attapulugus Clay Co.	121	Hochstadter Labs.	171	*Pylam Products Co.	174
Axtion-Cross Co.	176	*Hooker Electrochemical Co.	67	Regal Chemical Corp.	116
*Baird & McGuire, Inc.	124	Hospital Management	108	*Reilly Tar & Chemical Co.	156
J. T. Baker Chem. Co.	109	*Houchin Machinery Co.	70	Edward Remus & Co.	88
Banner Chemical Products Co.	Apr.	House of Milo.	18	Rex-Cleanwall Corp.	164
*Barrett Co.	162	H. D. Hudson Mfg. Co.	110	Rheem Mfg. Co.	12
Bendix Chemical Corp.	176	*Hysan Products Co.	9, 148	Rhodes Chemical Corp.	152
*Bobrick Mfg. Corp.	Apr.	Industrial Chemical Prods. Co.	Apr.	W. C. Ritchie & Co.	Apr.
*Bri-Test Products Corp.	166	Industrial Management Corp.	138	Robinson Wagner Co.	78
Bromm Chemical Co.	150	Industrial Raw Materials Corp.	177	*Rohm & Haas Co.	134
Buckingham Wax Co.	Apr.	Inland Steel Container Co.	82	A. H. Ross Co.	Apr.
Bush Aromatics	Apr.	*Innis, Speiden & Co.	Apr.	Rumford Chemical Works.	31
Can Manufacturers Institute.	93	Institutions Magazine	118, 119	Sanitary Soap Co.	26
Carbide & Carbon Chemicals Corp.	6	James Laboratories	171	*C. G. Sargent's Sons Corp.	76
R. E. Chapin Mfg. Wks.	Apr.	R. A. Jones & Co.	34	*Schimmel & Co.	56
Chemical & Process Mach. Corp.	178	Kamen Soap Products Co.	Apr.	F. E. Schundler & Co., Inc.	82
Chemical Mfg. & Dist. Co.	14	Karl Kiefer Machine Co.	72	Seaboard Distributors, Inc.	86
Chemical Service Co.	16	Kinetic Chemicals, Inc.	104	Seeley & Co.	174
Chemical Supply Co.	168	Kranich Soap Co.	Bet. 54, 55	Seil, Putt & Rusby.	171
John A. Chew, Inc.	176	H. Krevit & Co.	158	Shell Oil Co.	Apr.
Antoine Chiris Co.	Apr.	Kwik Products Co.	Apr.	Henry Simon, Ltd.	84
Cin-Made Corp.	168	Lancaster, Allwine & Rommel.	170	*Skinner & Sherman.	171
Cole Laboratories, Inc.	Apr.	Alan Porter Lee.	171	*Skotch Products Corp.	178
Compagnie Parento	Apr.	J. M. Lehmann Co.	Apr.	*Foster D. Snell.	173
Concord Chemical Co.	Apr.	C. W. Lenth.	171	*Solvay Sales Corp.	10, 3rd Cover
*Consolidated Products Co.	174	Lostrand Co.	Apr.	Sparhawk Co.	64
Consumers Import Co.	168	Lowell Mfg. Co.	157	Sprayer Corp. of America.	136
*Continental Can Co.	50	*Geo. Lueders & Co.	Apr.	Standard Alcohol Co.	Apr.
Cornelius Products Co.	Apr.	MacKenzie Laboratories	164	Stillwell & Gladding.	Apr.
Cowles Detergent Co.	89	*Magnus, Mabey & Reynard, Inc.	92	*Stokes & Smith Co.	Apr.
Crosby Chemicals, Inc.	170	Maryland Glass Corp.	Feb.	Tech Soap Co.	160
A. De Swaan.	Apr.	M. & H. Laboratories.	154	Texas Soap Mfg. Co.	159
*Davies-Young Soap Co.	13	J. W. McCutcheon.	171	E. G. Thomssen	173
*Derris, Inc.	178	C. C. McDonnell.	171	*Tombarel Products Corp.	Apr.
*Diamond Alkali Co.		*McLaughlin Gormley King Co.	140	Tischler Biological Services.	173
Standard Silicate Division.	Apr.	Merck & Co.	Apr.	Triangle Package Machinery Co.	Apr.
Harry W. Dietert Co.	Apr.	Michel Export Co.	170	Trio Chemical Works.	176
*Dodge & Olcott Co.	17, 103	Miranol Chemical Co.	64	Twin City Shellac Co.	162
*Dow Chemical Co.	60	Mirvale Chem. Co.	174	Jos. Turner & Co.	Apr.
E. F. Drew & Co.	101	Monsanto Chemical Co.	4, 117	Ultra Chemical Works.	11
*P. R. Dreyer, Inc.	23	Moore Bros. Co.	84	*Uncle Sam Chemical Co.	160
*E. I. du Pont de Nemours & Co.		National Can Co.	96, 97	Ungerer & Co.	Front Cover
Facing 54, 98, 146		National Milling & Chemical Co.	154	Union Pacific Railroad	58
*Eastern Industries	48	Nat'l Sanitary Supply Assn.	30	U. S. Bottlers Mch. Co.	78
Eavenson Chemical Co.	65	Wm. D. Neuberg Co.	Mar.	U. S. Industrial Chemicals, Inc.	Between 82, 83
Edco Corp.	99	*Newman Tallow & Soap Machinery Co.	172	*Van Ameringen-Haebler, Inc.	8, 142
Elite Labs.	171	N. Y. Dermatological Lab.	Apr.	R. T. Vanderbilt.	Apr.
Elkay Products Co.	177	*Niagara Alkali Co.	Bet. 54, 55	Van Pell Chemical & Supply Co.	173
Emery Industries	Apr.	Norda Essential Oil & Chemical Co.	25	*Velsicol Corp.	113
Emfo Corp.	171	Olsen Publishing Co.	32	War Assets Corp.	Apr.
Federal Tool Corp.	80	Onyx Oil & Chemical Co.	122	Wax & Rosin Products.	102
*Federal Varnish Co.	156	*Orbis Products Co.	130	*Welch, Holme & Clark Co.	80
*Felton Chemical Co.	33, 114	Oronite Chemical Co.	Mar.	*Westvac Chlorine Prods. Corp.	62
Filtrol Corp.	Apr.	Owens-Illinois Glass Co.	Mar.	*Whittaker, Clark & Daniels.	Apr.
*Firmenich & Co.	7	Peck's Products Co.	157	Wisconsin Alumni Res. Foundation	144
*Florasynt Laboratories	27	*S. B. Penick & Co.	111	*Wurster & Sanger, Inc.	173
Franklin Research Co.	112	*Pennsylvania Refining Co.	166	Wyandotte Chemicals Corp.	22
Fritzsche Brothers, Inc.	52	Pennsylvania Salt Mfg. Co.	Apr.	York Chemical Co.	180
*Fuld Brothers	3				
Gardner-Richardson Co.	100				

Every effort is made to keep this index free of errors, but no responsibility is assumed for any omissions.



THEY ALL COME BACK FOR MORE

Because Tech has a cleaner for every building need, Tech soaps are available for: floor maintenance, cleaning tacked-down carpets, rug shampoo for plant cleaning, tile floors, porcelain fixtures, furniture, woodwork and waxed floors.

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TECH SOAP

TECCO FLOOR CLEANERS
LATHER-TEX HAND SOAP
TECH RUG SHAMPOO
VEGETABLE OIL SOAPS
WAX SOAP CLEANER
PASTE CLEANER

End Sprayer Troubles

**INSECTICIDE
SPRAYER**

**STAINLESS STEEL, LEAK-PROOF
CORROSION RESISTANT
PRECISION-BUILT**



KNAP-SACK TYPE

Proclaimed by the Dept. of Agriculture as the most durable, rugged sprayer built... as the most satisfactory for residual or space spraying.

Does your sprayer leak? Do you have to wear gloves when using it? Do you have to stop and pump air every few minutes, or pump continually? Do you have to clean it out every time after use? Must you frequently oil and replace gaskets, washers and hose?

All these troubles, usually encountered in a sprayer, have been eliminated in the Lofstrand. It is constructed of stainless steel and machined brass parts to withstand any corrosive action of insecticides.

Hose, gaskets and washers are made specifically to resist swelling. Spray gun is leak-proof.

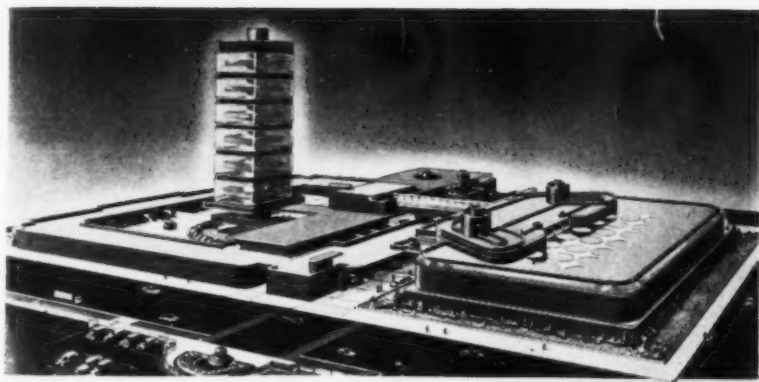
Tank has 2 gal. liquid capacity; pressure up to 60 lbs. Accurate pressure gauge. Raise pressure to 50 lbs. only twice, to spray 2 gals. of liquid. \$29.50.

If your distributor does not carry this sprayer, send his name to us, along with yours, and you will be taken care of promptly.

Some territory still open for distributors.

"Of course it costs more . . . but it's worth more than it costs."

THE LOFSTRAND COMPANY, 954 SELIM ROAD, SILVER SPRING, MD.



New Johnson Wax Laboratory

S. C. Johnson & Son, Inc., Racine, Wis., will erect a modern wax research laboratory during the year, Herbert F. Johnson, president, has announced. The new building will mark the 60th anniversary of the founding.

Three New Gulf DDT Sprays

Gulf Oil Co., Pittsburgh, Pa., is using dealer business papers to promote three new insecticides using DDT. "Gulf Spray," first of the trio, is described as a contact insecticide including $\frac{1}{4}$ of 1 per cent of DDT plus pyrethrins for flies, mosquitoes, moths, gnats and crawling insects. "Trak," a new development, contains 6 per cent DDT, for spraying or brushing on screens, walls, porch ceilings. Residue effects, it is claimed "will be felt for weeks and months if not removed." "Tag," the third product, contains 5 per cent DDT with organic thiocyanates for spraying bed bugs and, it is claimed, "will be effective as long as six months if used as directed."

Superior Sanitary Supply Co.

Superior Sanitary Supply Co., has been organized at Wilmington, Del., by Edw. E. Rothstein, brother of the late Louis Rothstein, former owner of Sterling Soap & Chemical Co. of Wilmington. Headquarters of the new enterprise are at 306 Shiply St.

Market New Paste Insecticide

DDT Chemical Co., 740 Superior Ave., Cleveland, has announced a new insecticide in paste form, put up in tubes like tooth paste. It will not scatter or float and can be used

of the business, he said. It is to be designed by the famous architect, Frank Lloyd Wright, and will be a companion to the administration building, also planned by Wright and completed in 1939. A feature of the new laboratory will be a 15-story tower of glass.

on vertical surfaces as well as under base boards, in cracks, etc. It is said to kill roaches, silverfish and water-bugs.

Hudson Offers New Duster

H. D. Hudson Mfg. Co., 589 E. Illinois St., Chicago, has placed on the market a new insecticide duster with a long reach and directional nozzle which, it is claimed, "puts dust in places hard to get at and keeps it out of eyes, nose and mouth of operator." The device is lithographed.

The new home of Eradico Products Co., Detroit, manufacturers of household insecticides and pest control operators is located at 684 East Congress Street, Detroit 26.



Offer Dust Absorbing Liquid

Franco-American Hygienic Co., 540 N. Michigan Ave., Chicago, is now offering its dust absorbing liquid, "Dusorb," in bottles selling at retail for 50 cents and \$1.00. For years the product has been sold in barrels for industrial use only. To promote the new distribution plan a national advertising campaign is being conducted in newspapers, trade papers and consumer publications, and the product will be presented at trade shows, it was announced. Jobbers and dealers are offered trade discounts, with freight paid on shipments over 100 lbs.

New Insecticide Vaporizer

Budweiser Laboratories, 1401 W. North Ave., Chicago, has introduced a new insecticide vaporizer, which can be plugged into the nearest electrical outlet to produce steam of 28 lbs. pressure for rapid diffusion of a concentrated insecticide spray. This latter is also furnished by the company and is said to be odorless, stainless and harmless to humans. One ounce of spray per 1,000 cu. ft. of space is recommended for flies,—or two ounces to kill roaches.

Emulsol Adding To Plant

Emulsol Corp., Chicago, is building an addition to its plant at 1914 S. Kilbourn Ave., that city.

**DIRECT IMPORTERS
HEADQUARTERS**
for
Oil
Ocotea Cymbarum

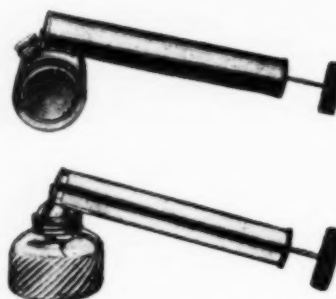
(Sassafras)

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IMPORT COMPANY, INC.**

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CHAPIN SPRAYERS

Single Action, Continuous Types.
One of the Oldest and Best-
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Sorry, no orders can be accepted for
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EXPORT

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PURE, ODOR AND FLAVOR OF OIL OF ANISE

"GUM SYNTHOBENZON"

(SYNTHETIC GUM BENZOIN)

FIXATIVE PROPERTIES, CONSTITUENTS, ODOR, TASTE AND
PURITY CLOSELY CORRESPOND TO THOSE OF THE
NATURAL GUM BENZOIN OF THE SIAM TYPE.

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SELECTED GRADE NATURAL PEPPERMINT EXTRACT (OIL)

"SYNTHOMENTHOL"

SYNTHETIC MENTHOL CRYSTALS HAVING COOLING EFFECT AND
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ESSENTIAL OILS — FLAVORING OILS
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McGuire Du Pont District Mgr.

Effective April 1, Edward J. McGuire, New York branch manager of the Grasselli Chemicals department of E. I. du Pont de Nemours & Co., was named New York district sales manager, the company announced recently. G. A. Wright has been appointed assistant district sales manager of the New York area. Mr. McGuire, who completes 36 years with Du Pont in June, will continue to make his headquarters at the New York office of the company, 350 Fifth Ave.

Two Join Sonneborn Staff

Dr. Henry Sonneborn, III, until recently on active duty as a lieutenant in the U. S. Naval Reserve, and Dr. Hans Schindler, formerly senior research chemist of Pure Oil Co., Winnetka, Ill., have joined the technical staff of the Petrolia, Pa., refinery of L. Sonneborn Sons, Inc., New York. A graduate of Johns Hopkins University, where he received his Ph.D. in chemistry, Dr. Sonneborn returns to the company as assistant to Dr. F. W. Breth, vice-president and technical director. He had held that position prior to his service during the past four years as experiment and test officer at the Naval Ammunition Depot, St. Juliens Creek, Va.

Dr. Schindler joins the company as a research chemist with headquarters at the Petrolia refinery. He recently served as a member of the technical oil mission which investigated the German petroleum industry for the Technical Industrial Intelligence Committee (Joint Chiefs of Staff).

Leonard Joins Bur. of Entomology

Mortimer D. Leonard, formerly in charge of insecticide price controls for the Office of Price Administration for four years, has become associated with the Office of Foreign Plant Quarantines of the U. S. Department of Agriculture's Bureau of Entomology and Plant Quarantine, Washington. In his new post, his function will be to prepare information concerning injurious, foreign insects likely to be introduced into the United States

through commerce. During the latter part of the 1930's Mr. Leonard was with John Powell & Co., New York, for about five years.

Sprayer by Lofstrand

A stainless steel sprayer which its makers say withstands corrosive action of insecticides is being marketed



by the Lofstrand Company, Silver Spring, Maryland. Features of the sprayer, according to the manufacturers, include a shut-off valve in the hose, mesh strainers to prevent clogging by sediment, and light weight of the entire unit. The sprayer is recommended by its makers for use on poultry farms, dairies, barns and gardens as well as other applications. The product was first developed at request of U. S. Army engineers for use of DDT.

Com. Solvents Appoint Sanders

James G. Sanders, formerly of Sun Oil Co., Philadelphia, recently joined Commercial Solvents Corp., New York, to develop markets for insecticides, fumigants and allied products. As an entomologist, he was retained by the government during the war, working in South America and Iran.

Carroll Agicide Insecticide Head

Francis E. Carroll, entomologist in charge of insecticide development since 1936 for Agicide Laboratories, Inc., Racine, Wis., has been appointed general manager in charge of the insecticide division, the company announced recently. A graduate of the University of Wisconsin's college of agriculture, Mr. Carroll was connected with the U.S.D.A., Bureau of Entomology and Plant Quarantine, pea aphid investigations at Madison.

N.S.S.A. Meeting May 26-29

The National Sanitary Supply Association will hold its 23rd annual convention and merchandise display May 26-29, at the Morrison Hotel, Chicago, the association announced recently. The meeting was not held last year because of war-time restrictions. In his letter announcing the convention, S. J. Bockstanz, president of association, stated that this year's convention will devote more time than ever before to the display feature.

Sunday, May 26, has been set aside for non-members. The convention will not be open at any time to the general public, nor will non-members be admitted after May 26. The "Terrace Room" of the hotel has been reserved for the banquet, Tuesday evening, May 28.

N.J. Mosquito Exterminators Meet

The 33rd annual meeting of the New Jersey Mosquito Extermination Association was held April 3-5, at the Hotel Ambassador, Atlantic City, N. J. Included on the program were such topics as the precautions taken to prevent malaria epidemics as a result of the return of infected service men, and the safe use of DDT and other insecticides.

Westinghouse Plans "Bomb" Sale

Plans for the sale and national distribution of the Westinghouse "Bug Bomb," aerosol insecticide dispenser, have been completed, it was announced recently by the Westinghouse Electric Appliance Division, Mansfield, O. Manager of the newly-formed insecticide department is Harry S. Mills, while R. E. Ditsler is merchandise manager.

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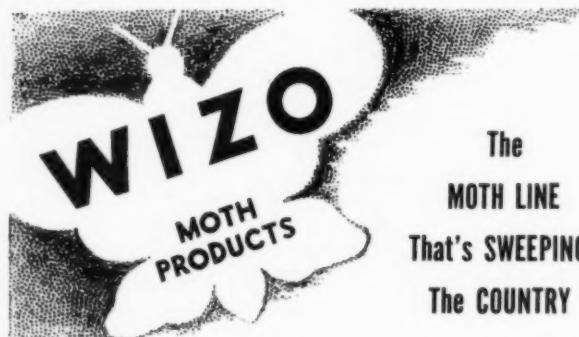
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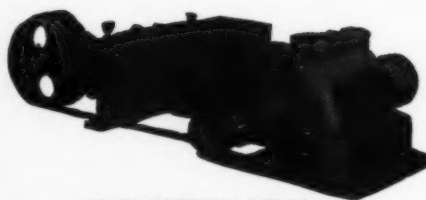
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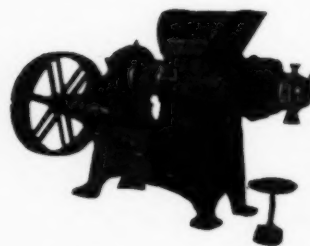
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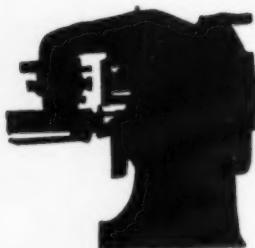
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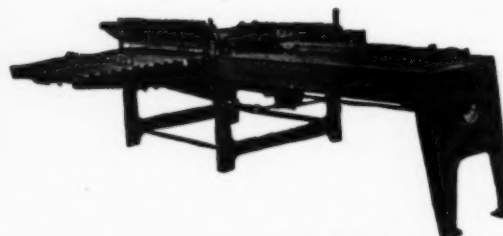
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| Filling and Weighing Machine for Flakes, Powders, etc. | Broughton Soap Powder Mixers. |
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Positions Open

Technical Director: Established manufacturer of soap and allied products in Ohio has opening for technically trained and experienced man capable of directing laboratory work and supervising development of new products and processes in the detergent field. Give full details, experience, expected salary, etc., in first reply. Address Box No. 396, care *Soap & Sanitary Chemicals*.

Wanted: Experienced salesmen with proven ability in the agricultural insecticide field. Openings in the Central and West Coast States. These positions are with an established company manufacturing basic insecticide materials, which are nationally known for sale to insecticide

manufacturers. The positions call for aggressive salesmanship plus field work on insect problems, which requires the services of men of ability with some entomological background. Excellent future. Salary open. Applications will be held in strictest confidence. Write full business and personal history; also include photograph if possible. Address C. L. Schroeder, Vice President, McLaughlin Gormley King Company, 1715 Fifth Street South East, Minneapolis, Minnesota.

Manufacturers Representative: We need a man with experience and contacts in the insecticide field to handle the sale of aerosol insecticides in the eastern market. We are one of the large aerosol producers and this is an excellent opportunity for the right man. Please send information regarding your experience and territory you can cover. Address Box No. 397, care of *Soap & Sanitary Chemicals*.

Soap and Research Chemist Wanted: Long established, highly rated manufacturer of soap and cleaning compounds desires to employ experienced chemist capable of taking full charge of all research activities including formula improvements, development of new products, studies of new chemicals, as well as routine test and investigations, etc. Successful applicants will have direct contact with and aid of top executives. Position will be per-

manent and offers good income; other employment benefits; opportunity to exercise initiative and to become an important part of a successful and expanding business. Headquarters will be either in Hartford, Conn. area or New York City. In replying, please give age, education, complete business record, references and starting salary desired. Address Box 398, care of *Soap & Sanitary Chemicals*.

Production Man: This young, well-established manufacturing concern offers a splendid opportunity to a thoroughly experienced production manager of Sanitary Chemicals, converting liquid soaps, polishes, dry mix cleaners, dish compounds, metal cleaners, DDT insecticides and other products of this nature; also must have background in chemistry sufficient to keep abreast of general progress in this field. Firm located in the fastest growing and most promising area of the West Coast Region. Good salary and opportunity for fast advancement. Write fully including photo. Address Box 399, care of *Soap & Sanitary Chemicals*.

Soapmaker: Experienced in both liquid and paste. A top opportunity with a leading national manufacturer in Great Lakes area. When writing, give all details—full experience, salary expected, etc. Address Box 400, care of *Soap & Sanitary Chemicals*.

Production Chemist: The young man we want might now be an assistant in a laboratory, but familiar with producing liquid soaps, disinfectants, waxes. He will supervise production in our plant, working closely with our laboratory. He will have an executive position, if he can handle men. State age, earnings, full details in confidential letter. Great Lakes area. Our staff knows of this advertisement. Address Box 401, care of *Soap & Sanitary Chemicals*.

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Physical Chemist: Leading midwestern chemical manufacturer requires able, diversified man to head research section developing and evaluating detergents and chemical products for the laundry, dry cleaning, textile and other industries. Very desirable opportunity. Graduate degree in physical chemistry or full equivalent essential, plus qualifying background. Write fully and enclose snapshot. Address Box 404, care of *Soap & Sanitary Chemicals*.

Production and Research Chemist: For present expansion program we require experienced production and research chemist in disinfectants, insecticides, polishes, floor waxes, soaps and detergents. Excellent opportunity. Reply giving complete qualifications. Fuld Bros., Inc., 702 S. Wolfe St., Baltimore 31, Md.

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Chemist: Young man, 24, just out of Navy desires position as chemist or assistant with manufacturer. Located mid-west but will go anywhere. Graduate Northwestern. Address Box 406, care of *Soap & Sanitary Chemicals*.

Sales Manager: Man past forty-five seeks an opening as Sales or

Sales Promotion Manager for some expanding firm in the insecticide and allied chemical field. All replies will be answered. Address Box 407, care of *Soap & Sanitary Chemicals*.

Soapmaker and Research Chemist: Desires new connection with progressive firm. Age 36. Experienced in factory production of full boiled soaps and soap specialties for the textile, sanitary, laundry, metal, automotive specialties fields. Minimum salary \$6500 with bonus. Address Box 408, care of *Soap & Sanitary Chemicals*.

Salesman: Man with ten years successful experience agricultural and household sales work desires to change position. Has sold raw materials and finished products through Middle Atlantic States and Great Lakes area. Wide knowledge of trade and friendship in area. Address Box 409, care of *Soap & Sanitary Chemicals*.

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Superintendent: 20 years experience in soap industry, soap maker require superintendent's position. Address Box 411, care of *Soap & Sanitary Chemicals*.

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For Sale: 2 Drums Whitmire Diro Liquid Insecticide Concentrate, 1 Drum Glyco S-489 Emulsion wax material. Address Box 412, care of *Soap & Sanitary Chemicals*.

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Wanted to Purchase: Textile Chemical Company equipped to manufacture soaps and various textile specialties. Address Box 415, care of *Soap & Sanitary Chemicals*.

Wanted: Interested in exclusive distributorship and sales rights for state of Missouri. All propositions will be considered. Will have salesmen covering Missouri. Address Box 416, care of *Soap & Sanitary Chemicals*.

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Wanted: We would like to obtain the following back issues of *Soap & Sanitary Chemicals*:—June 1937, May and Nov. 1938; Jan., March, April and June, 1939; Dec. 1940; Jan., Feb., March and April, 1942; April and May, 1943. Please communicate with Box 417, care of *Soap & Sanitary Chemicals*.

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Formula Wanted: Perfume formula for shaving cream wanted. Address Box No. 421, care of *Soap & Sanitary Chemicals*.

Soap Plant—Small soap factory, operating in mid-west, for sale. For further details, communicate with Box 420 care of *Soap & Sanitary Chemicals*.

Orbis Names McGrath

C. D. McGrath, Jr., a 1941 Boston College graduate, and a lieutenant in the Naval Air Forces until his recent discharge from service, joined the New England sales staff of Orbis Products Corp. He will make his headquarters in the Boston office.

As a service to veterans seeking jobs in the soap, chemical, detergent and sanitary industry, *Soap & Sanitary Chemicals* will accept, without charge, classified advertising from World War II veterans seeking positions. Advertisements should reach this magazine before the 21st of the month preceding month of publication, and should include all essential information. Send them to *Soap & Sanitary Chemicals*, 254 West 31 St., New York 1, N. Y.

Report DDT Effect on Bees

Geigy Co., New York, issued a statement recently containing comments on the effect of DDT on honey bees. According to the Geigy statement "shortly after the introduction of DDT insecticides, there were many expressions of apprehension with regard to the survival or destruction of honey bees in contact with plants treated with DDT insecticides." The statement concludes by saying: "... in recent months the calm judgment of many competent observers has either repudiated these fears or has urged that final conclusion await fuller study."

N.A.I.D.M. Advises of State Bills

A recently issued announcement concerning the labeling of DDT products in South Dakota appears to refer only to agricultural insecticides, according to a recent release from the National Association of Insecticide and Disinfectant Manufacturers. The Association is therefore writing to the authorities in South Dakota to determine if this is the case.

The N.A.I.D.M. also points out that a bill was recently introduced into the State legislature of Mississippi that would provide for some state agency to make disinfectants, insecticides, soap jelly, bug killer, cresol compound, deodorant blocks, pipe cleaner, cattle or dairy spray, fly or other insect sprays and poisons and like solution and compounds for use by state institutions, etc.


M-81, Can Order, Amended

An amended order restricting the use of tinsplate, terneplate and blackplate to the manufacture of cans for the packaging of food products was issued March 1, by the Civilian Production Administration. The order, M-81 (amended), contains Schedule I, which lists the products which may be packed in cans made from these metals and other uses are prohibited. The order states that can manufacturers must disregard preference ratings (except AAA) in accepting and filling orders for cans. Products in the soap and sanitary chemicals field appearing

on Schedule I, include: 169, cleaners, a.) Wallpaper, b.) window spray, c.) radiator liquid, d.) cleaning fluids; 172, deodorizers; 173, disinfectants and germicides; 177, glycerine; 182, insecticides and fungicides, liquid; 192, polishes and waxes; 196, rust preventive; 198, liquid soap; 202, toilet bowl and drain cleansers; 205, worm killer, sheep and cattle dip, and other liquid disinfectants; 207, any other non-food products. All the above may pack 100 per cent of 1945, with the exception of glycerine, which is unlimited, and any other nonfood product which is 50 per cent of 1941.

Hotel Men Hear Leo Kelly

Leo J. Kelly, executive secretary of the National Sanitary Supply Association, spoke on "How to Buy Sanitary Maintenance Supplies" before the Texas Hotel Association convention, March 28, in Galveston, Tex. From there Mr. Kelly expected to go to Dallas to address a regional meeting of the Association's southern district members, at the Baker Hotel, April 1.



THE
VANDERBILT
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CHEROKEE CLAY for WET SPRAY
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**Let us
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it for you!**

Those products which you are not equipped to manufacture yourself . . . those odd items which do not fit into your plant . . . mosquito repellent, flea powder, salves, ointments, tube filling, powder filling, etc. . . we buy materials, containers, pack, store, and ship your specialties . . . most modern methods and equipment . . . strictly confidential . . . and our charges are low . . . consult us without obligation.

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FOR CASH

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NOW

YOU may be relieved of much worry and unnecessary expense.

YOUR company (its personnel intact, as a rule) will gain the benefit of added capital, plus the expert management of an experienced, reputable operating organization.

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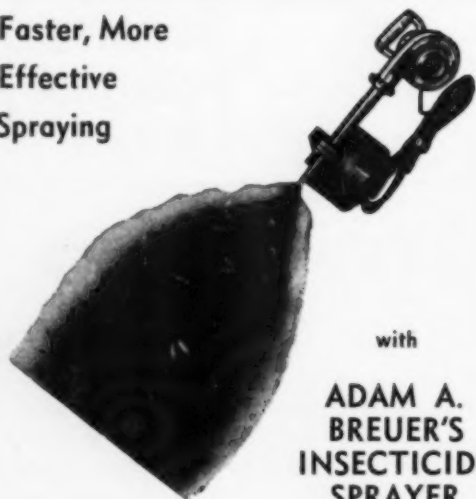
We are licensed under Patent No. 2,329,074 and can supply royalty-paid materials compounded as you wish.

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Powder — Resins — Extracts
We can, as always, give you the best.

DERRIS, INC.

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Faster, More
Effective
Spraying



with
**ADAM A.
BREUER'S
INSECTICIDE
SPRAYER**

MOTORIZED spraying of insecticides is not only faster, covering a wider area in less time, but also more effective. Breuer's Insecticide Sprayer is motorized to give more penetrating, more efficient spraying of insecticides, disinfectants, etc. Unit holds up to 1 gallon of liquid and sprays it 18' to 20'. Shoots with such force as to penetrate all cracks and crevices. Extensively used.

We do not sell insecticides. Our business is the manufacture of Sprayers. (Patented in U. S. A. and foreign countries.)

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*Licensed to build and distribute
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SAFETY HAND SOAP

(Powdered)

A money-maker for alert jobbers calling on industrial plants and institutions.

- ★ Hygienically safe—fast and economical
- ★ Non-abrasive, vegetable oil base
- ★ Soothing with fine after-effect
- ★ Tested and approved by millions of safe washups in plants throughout the country
- ★ Unsurpassed quality and value
- ★ Free samples available for established jobbers

Other items in the Skotch Products line include dish-washing compounds, medium and heavy duty cleaners, liquid soap concentrate, special formula compounds and powdered soap dispensers.

SKOTCH PRODUCTS CORP.

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INDEX TO ADVERTISERS

* For further details see announcement in 1945 SOAP BLUE BOOK

Agricultural Chemicals	106, 154	*General Drug Co.....	4	*Per-Mo Products Co.....	161
Alsoop Engineering Co.....	78	*R. Gesell, Inc.....	181	Philadelphia Quartz Co.....	62
Amco Chemical Corp.....	Mar.	*Givaudan-Delawanna, Inc.....	20, 21	*Pittsburgh Coal Carbonization Co..	174
*American British Chemicals Supplies	91	R. W. Greeff & Co.....	168	*Pittsburgh Plate Glass Co.,	
American Can Co.....	32	A. Gross & Co.....	67	Columbia Chemical Division....	27
American Standard Mfg. Co.....	92	Haag Laboratories	84	*John Powell & Co.....	95
Anchor-Hocking Glass Corp.....	17, 73	Hardesty, W. C., Co.....	22	*R. J. Prentiss & Co.....	117
Applied Research Labs.....	175	Hercules Powder Co.....	102, 103	*Proctor & Schwartz, Inc.....	76
*Aromatic Products, Inc.	105	Hochstadter Labs.....	175	*Pylam Products Co.....	178
Armour & Co.....	Mar.	*Hooker Electrochemical Co.....	72	Regal Chemical Corp.....	120
*Associated Chemists, Inc.....	114	Hospital Management	26	*Reilly Tar & Chemical Co.....	160
Attapulugus Clay Co.....	156	*Houchin Machinery Co.....	74	Edward Remus & Co.....	80
Axton-Cross Co.....	180	House of Milo.....	Facing 23	Rex-Cleanwall Corp.....	166
*Baird & McGuire, Inc.....	128	H. D. Hudson Mfg. Co.....	123	Rheem Mfg. Co.....	Mar.
J. T. Baker Chem. Co.....	113	*Hysan Products Co.....	9	W. C. Ritchie & Co.....	7
Banner Chemical Products Co.....	164	Industrial Chemical Prods. Co.....	178	Robinson Wagner Co.....	66
*Barrett Co.....	163	Industrial Management Corp.....	142	*Rohm & Haas Co.....	138
Bendix Chemical Corp.....	172	Industrial Raw Materials Corp.....	174	A. H. Ross Co.....	6
*Bobrick Mfg. Corp.....	111	Inland Steel Container Co.....	Mar.	Rumford Chemical Works.....	33
*Bri-Test Products Corp.....	104	*Innis, Speiden & Co.....	82	Sanders-Evenson Chemical Co....	Mar.
Buckingham Wax Co.....	92	Institutions Magazine	30	Sanitary Soap Co.....	109
Bush Aromatics	86	James Laboratories	175	*C. G. Sargent's Sons Corp.....	Mar.
Can Manufacturers Institute.....	Mar.	R. A. Jones & Co.....	38	*Schimmel & Co.....	Mar.
Carbide & Carbon Chemicals Corp..	Mar.	Kamen Soap Products Co.....	71	F. E. Schundler & Co., Inc.....	Mar.
R. E. Chapin Mfg. Wks.....	172	Kinetic Chemicals, Inc.....	100, 101	Seaboard Distributors, Inc.....	90
Chemical Mfg. & Dist. Co.....	14	Kranich Soap Co.....	28	Seaboard Mfg. Labs.....	Mar.
Chemical Service Co.....	12, 13	H. Krevit & Co.....	168	Seeley & Co.....	178
Chemical Supply Co.....	158	Kwik Products Co.....	172	Seil, Putt & Rusby.....	175
John A. Chew, Inc.....	Mar.	Lancaster, Allwine & Rommel.....	175	Shell Oil Co.....	116
Antoine Chiris Co.....	70	Alan Porter Lee.....	175	Henry Simon, Ltd.....	88
Cin-Made Corp.....	Mar.	J. M. Lehmann Co.....	34	*Skinner & Sherman.....	177
Cole Laboratories, Inc.....	35	C. W. Lenth.....	175	*Skotch Products Corp.....	182
Compagnie Parento.....	68	Loftstrand Co.....	170	*Foster D. Snell.....	177
Concord Chemical Co.....	160	Lowell Mfg. Co.....	162	*Solvay Sales Corp.....	2nd Cover, 119
*Consolidated Products Co.....	178	*Geo. Lueders & Co.....	60	Sparhawk Co.....	69
Consumers Import Co.....	172	MacKenzie Laboratories.....	166	Sprayer Corp. of America.....	182
*Continental Can Co.....	58	*Magnus, Mabey & Reynard, Inc.....	115	Standard Alcohol Co.....	158
Cornelius Products Co.....	150	Maryland Glass Corp.....	Feb.	Stillwell & Gladding.....	177
Cowles Detergent Co.....	93	M. & H. Laboratories.....	164	*Stokes & Smith Co.....	82
Crosby Chemicals, Inc.....	180	J. W. McCutcheon.....	175	Tech Soap Co.....	170
A. De Swaan.....	174	C. C. McDonnell.....	175	Texas Soap Mfg. Co.....	161
*Davies-Young Soap Co.....	18	*McLaughlin Gormley King Co.....	144	E. G. Thomssen.....	177
*Derris, Inc.....	182	Merck & Co.....	140	*Tombarel Products Corp.....	66
*Diamond Alkali Co.		Miranol Chemical Co.....	68	Triangle Package Machinery Co...	80
Standard Silicate Division.....	8	Mirvale Chem. Co.....	Mar.	Trio Chemical Works.....	180
Harry W. Dietert Co.....	86	Monsanto Chemical Co.....	29, 121	Twin City Shellac Co.....	163
*Dodge & Olcott Co.....	23, 107	Moore Bros. Co.....	88	Jos. Turner & Co.....	52
*Dow Chemical Co.....	64	National Can Co.....	98, 99	Ultra Chemical Works.....	10, 11
E. F. Drew & Co.....	Feb.	National Milling & Chemical Co....	156	*Uncle Sam Chemical Co.....	Mar.
*P. R. Dreyer, Inc.....	112	Wm. D. Neuberg Co.....	Mar.	Ungerer & Co.....	3rd Cover
*E. I. du Pont de Nemours & Co....	152	*Newman Tallow & Soap Machinery		Union Pacific Railroad.....	31
Between 54 & 55		Co.....	176	U. S. Bottlers Mch. Co.....	84
*Eastern Industries	Mar.	N. Y. Dermatological Lab.....	175	U. S. Industrial Chemicals, Inc.	
Elite Labs.....	175	*Niagara Alkali Co.....	Facing 54	Between 86, 87	
Elkay Products Co.....	174	Norda Essential Oil & Chemical Co.	24	*Van Ameringen-Haebler, Inc.	
Emery Industries	15	Olsen Publishing Co.....	36	Front Cover, 146	
Emfo Corp.....	175	Onyx Oil & Chemical Co.....	124	R. T. Vanderbilt.....	181
Federal Tool Corp.....	Mar.	*Orbis Products Co.....	127	*Velsicol Corp.....	125
*Federal Varnish Co.....	154	Oronite Chemical Co.....	Mar.	War Assets Corp.....	16
*Felton Chemical Co.....	37, 96	Owens-Illinois Glass Co.....	Mar.	*Welch, Holme & Clark Co.....	34
Filtrol Corp.....	Facing 22	Peck's Products Co.....	162	*Westvaco Chlorine Prods. Corp....	Mar.
*Firmenich & Co.....	4th Cover	*S. B. Penick & Co.....	118	*Whittaker, Clark & Daniels.....	108
*Florasynt Laboratories.....	Facing 55	*Pennsylvania Refining Co.....	104	Wisconsin Alumni Res. Foundation.	148
Franklin Research Co.....	122	Pennsylvania Salt Mfg. Co.....	136	*Wurster & Sanger, Inc.....	177
Fritzsch Brothers, Inc.....	56	Pensacola Municipal Advertising		Wyandotte Chemicals Corp.....	Mar.
*Fuld Brothers	3	Board	90	York Chemical Co.....	Mar.
Gardner-Richardson Co.....	97				
*Geigy Co.....	126				
General Chemical Co.....	19				

Every effort is made to keep this index free of errors, but no responsibility is assumed for any omissions.



"No, we ain't got it. Dat stuff sold so fast we wuz always out ob it, so we doan stock it no more!"

Repeat Business...

GOOD, bad or indifferent, almost any product backed by the right sales effort will sell the first time. But when it comes to the second, third, and subsequent sales, merit of the product is the determining factor. This is also true in the case of paid subscribers to business papers. The percentage of readers who **RENEW** their subscriptions year in and year out is the real acid test of advertising value.

The latest (audited by A.B.C.) subscription renewal figure for "Soap & Sanitary Chemicals" is 88.4%. Not a "war-boom" figure this, because the renewal percentage has been well over 80% for many years. This high "repeat business" in subscriptions means that if you desire to advertise in a magazine which is really **READ** in the field of soap products, detergents, cleaners, insecticides, disinfectants, and allied chemical specialties, look into

SOAP and Sanitary Chemicals

254 WEST 31st STREET

NEW YORK 1

A.B.C. paid subscription renewal rate for year ending October, 1945—88.4%

Tale Ends

THREE bars of soap on the washstand in an office building lavatory! This observation,—and the fact that the soap had remained unstolen,—was one of the highlights of a recent visit to New York by a well-known Swiss manufacturer of perfuming materials.

* * *

Our experience is not in accord with that of the gentleman from Geneva. Two years ago, on account of the depredations of the printer's and engraver's delivery boys on our lavatory soap supply, we double-crossed them and installed a liquid soap dispenser.

* * *

Household insecticides, disinfectants, and deodorants should be completely off the OPA "price hook" by now if the report heard as we went to press is on the up-and-up. This means that all OPA price restrictions are off or about to go off of these products.

* * *


Some 74 million bottles of insect repellent placed on sale by the War Assets Corp.! This Army surplus must retail at no more than 25c per bottle, ceiling price, which is \$18,000,000 worth. Well, boys, there goes our insect repellent market for 1946,—and maybe for 1947 too!

* * *

If you plan on going to England soon, take along your own soap. A cut in British soap ration is imminent, according to a London report supposedly originating with Sir Ben Smith, British Food Minister. The United Kingdom soap situation is said to be worse now than at any time during the war.

* * *

Incidentally, what the Associated Press reported in the newspapers recently that we said about DDT ain't true! We never said it,—30,000,000 gallons of DDT,—and mostly for export. Such baloney! Having denied it privately after catching hell from 667 sources, we repeat: "It's a lie! We never said it!"

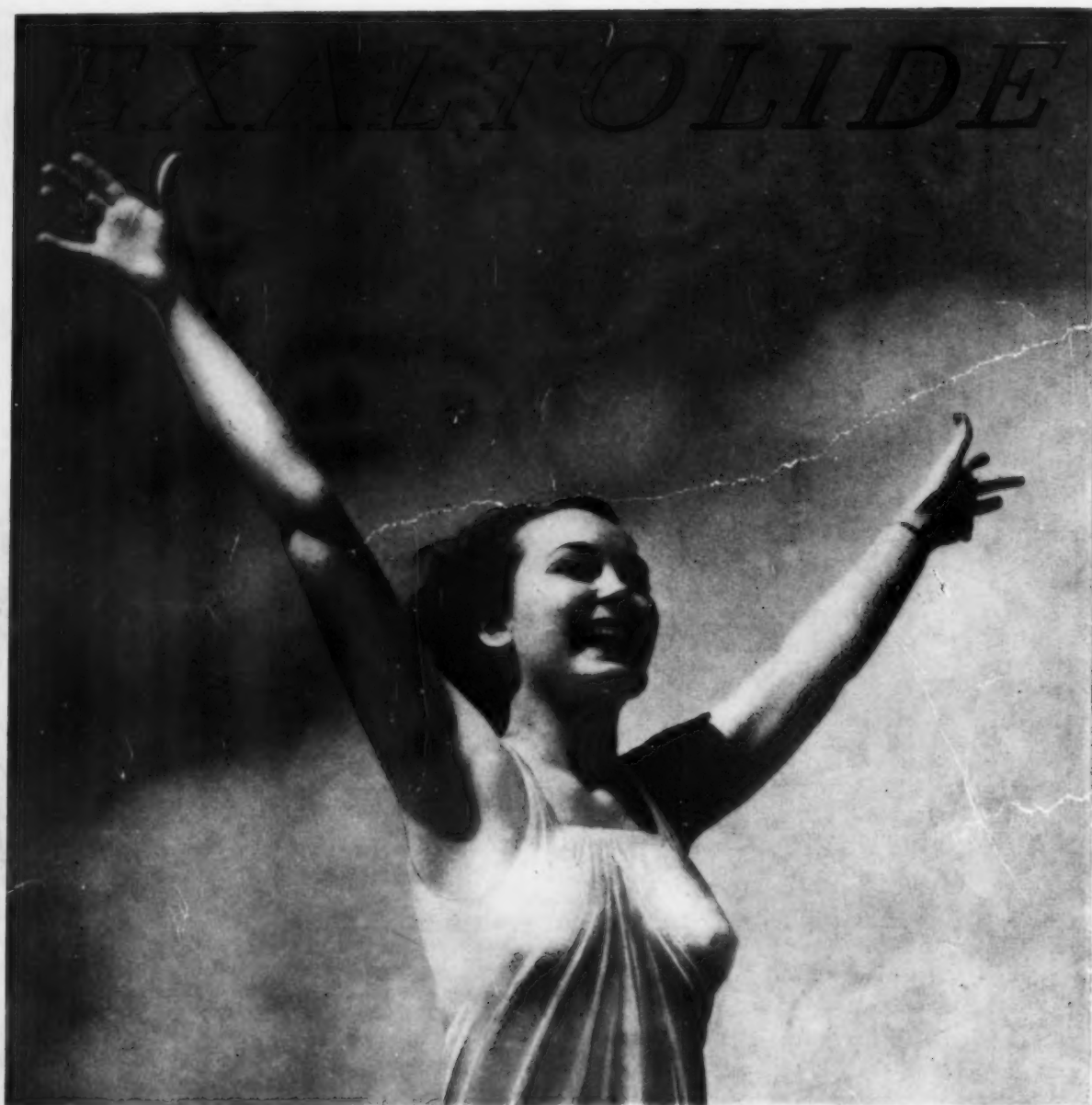
A decorative floral arrangement featuring various flowers, including roses and lilies, set against a dark background. A white lace doily is placed in the center, and a ribbon is tied into a bow around it. A white card is attached to the ribbon, containing the text.

Essential Oils
Perfume Compounds
Aromatic Chemicals

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"Our quality is always higher than our price"

Ungerer & Co.

161 SIXTH AVE., NEW YORK



Vibrant as sunshine and pulsating as the infusion of flowering blossoms with the Spring breeze — such is the effect of EXALTOLIDE on your perfume. EXALTOLIDE is the most highly developed, purest and strongest fixative body of a Musk-Ambergris character yet produced.

Perfume extracts, powders of any type, and creams daily are being improved and rounded by its aid, *without change of odor character*. A test will startle you! The value of EXALTOLIDE is priceless — its use economical.

Firmenich

